[24] MS. BARBULESCU: I have a couple for

Page 144

[1] Mr. Kennedy.

[2] CROSS-EXAMINATION

[3] BY MS. BARBULESCU:

[4] Q: Mr. Kennedy, I have a couple of [5] questions. You said this equipment is currently in [6] service. Is it in service for the specific purpose [7] that we want to use it here today, for remotely [8] accessing and combining unbundled network [9] elements?

[10] A: [KENNEDY] The in-service use of it today [11] is connecting a switch port to a cable pair in a [12] remote central office that is remotely accessed. [13] So yes. But when you use the terms UNE, link to [14] port, for a CLEC's purpose, the answer to that is [15] no at this time. It's used by telephone operating [16] companies.

[17] Q: Thank you. You said that equipment will [18] be able to combine loop and port. What about [19] remotely combining loop and transport?

[20] A: [KENNEDY] If it falls within the [21] electrical characteristics of the circuit, it will [22] certainly combine those.

[23] Q: That's all the questions I have. Thank [24] you.

Page 145

[1] MR. LEVY: Ms. Thurston?

[2] MS. THURSTON: No.

[3] MR. LEVY: Mr. Beausejour, any [4] redirect for Mr. Kennedy?

[5] MR. BEAUSEJOUR: I have none.

[6] MR. LEVY: Let's go off the record.

[7] (Discussion off the record.)

[8] MR. LEVY: Back on the record. [9] PAULA L. BROWN and [10] DON ALBERT, Previously Sworn [11] MR. LEVY: Mr. Albert, I just had a [12] question. When we were talking before about the [13] company policy of having only Bell Atlantic [14] employees touch equipment in the central office, [15] does that derive in part from an agreement with the [16] Bell Atlantic unions?

[17] WITNESS ALBERT: I don't know.

[18] WITNESS BROWN: I don't know. I know [19] it certainly is customary in these states, but I [20] don't know —

[21] WITNESS ALBERT: The custom and the [22] practice. I don't know if....

[23] MS. EVANS: Can management perform [24] any of the work?

Page 146

[1] WITNESS BROWN: I would say probably [2] not, without knowing our contract per se. [3] Management typically does not perform any craft [4] work.

[5] WITNESS ALBERT: It has to be during [6] a work stoppage.

[7] WITNESS BROWN: There are times, but [8] hopefully we don't encounter those.

[9] MR. LEVY: We also want to [10] distinguish between the words "can management" and [11] "may management."

[12] WITNESS BROWN: I think "may" is the [13] operative word here. I don't think we want to use [14] the word "can."

[15] CROSS-EXAMINATION

[16] BY MR. JONES:

[17] Q: Mr. Albert, on Page 5 of the Bell [18] Atlantic position statement, in the middle of the [19] second paragraph of that page appears the following [20] sentence. Quote, "Through this arrangement a CLEC [21] is not required to establish any physical presence [22] in a Bell Atlantic - Massachusetts central office [23] and need own no facilities of its own to access [24] UNEs." You'll see this is referring to offering

Page 147

[1] virtual collocation in every central office. Do [2] you understand the context of that statement?

[3] A: [ALBERT] Yes.

[4] Q: I just want to be sure we're clear on the [5] record: The CLEC may not be required to establish [6] a physical presence; but again, that's only because [7] under the Bell Atlantic approach it purchases what [8] would otherwise be a physical presence and sells it [9] to Bell Atlantic. Is that correct?

[10] A: [ALBERT] This is virtual collocation I [11] described, where the CLEC picks the equipment, [12] selects it, sells it to us for a dollar. We then [13] maintain it under the direction of them, but we've [14] got title to the equipment.

[15] Q: So would you agree that it might be more [16] accurate to say that a CLEC is required to purchase [17] and provide to Bell Atlantic for establishing a [18] physical presence equipment that enables the [19] provision of virtual collocation services?

[20] A: [ALBERT] Yes, that's how we do virtual [21] collocation.

[22] Q: Do you have any idea how Bell Atlantic [23] accounts for equipment that it acquires for a [24] dollar?

Page 148

[1] A: [ALBERT] No, I have no idea how the [2] accounting works.

[3] Q: You don't know whether that's carried on [4] its books as a rate-base item for a buck or for, in [5] this case, $20,000?

[6] A: [ALBERT] Well, it wouldn't be for [7] 20,000. I don't know where on the books —

[8] Q: What are the other options besides one [9] dollar or $20,000?

[10] A: [ALBERT] It would be one. I don't know [11] where on the books it appears. I don't know if it [12] appears as capital or if it appears as expense. [13] But it would be carried on the books at whatever [14] price we paid for it.

[15] Q: Let's jump ahead.

[16] MR. LEVY: May I just ask on that [17] one: If for some reason the CLEC wanted to remove [18] it and stop virtual collocation there, does it have [19] the right to get it back?

[20] WITNESS ALBERT: We'd sell it back to [21] them for 100,000. No, we'd sell it back to them [22] for a dollar.

[23] MR. LEVY: But they do have that [24] option.

Page 149

[1] WITNESS ALBERT: Yes. We would [2] reverse the virtual-collocation process. We [3] haven't had anybody do that yet, but we will [4] someday, I'm sure.

[5] Q: Mr. Albert, the switch subplatform refers [6] entirely to UNEs that are on the trunk side of the [7] switch; is that correct? And beyond, out into the [8] network.

[9] A: [ALBERT] What page was that on, again?

[10] Q: I'm beginning on Page 9.

[11] A: [ALBERT] Let me read the description. [12] (Pause.) Really, I think the stuff we're combining [13] together is from the port on, because this is [14] all —

[15] Q: From the trunk-port side of the switch —

[16] A: [ALBERT] I'd say from the line port. [17] You start with the line port, and you get [18] everything from there through the trunk side and [19] then also to the peripheral systems that it all [20] connects to.

[21] Q: So by starting from the line port, you're [22] connecting including all of the switch [23] functionality ^^sic in the switch-subplatform [24] offering.

Page 150

[1] A: [ALBERT] Yes.

[2] MR. LEVY: That sounds wrong, [3] compared to your description here.

[4] WITNESS ALBERT: I thought it had the [5] switch port in it. I'm not the product person.

[6] A: [BROWN] I think this question was [7] probably best addressed to Amy. I thought you [8] had.

[9] Q: I thought I understood it, but maybe I [10] don't.

[11] MR. LEVY: I think the way she [12]

described it was the trunk side and the features [13] external to the switch on the trunk side.

[14] **A:** [ALBERT] That's product definition.

[15] **MR. JONES:** I would make a record [16] request that we learn whether the switch [17] subplatform includes all switch functionalities, [18] all functionalities of the switch UNE. If the [19] answer to that is other than yes or no [20] definitively, then could we have a description of [21] what it does and doesn't include.

[22] **MR. LEVY:** Fine. That will be Record [23] Request Combinations 9.

[24] **(RECORD REQUEST.)**

Page 151

[1] **Q:** To the extent the switch subplatform, [2] Mr. Albert, includes elements that are out in the [3] network, let's say from the trunk port out —[4] shared transport, dedicated transport, access to [5] operator services and to emergency services and [6] signaling and the like — does Bell Atlantic in [7] Massachusetts currently face any competition in the [8] market today for those service offerings?

[9] **A:** [ALBERT] I don't know. Is that you [10] question: Do we face competition for those?

[11] **Q:** Are those competitors that are offering [12] dedicated transport in Massachusetts?

[13] **A:** [ALBERT] You mean like a competitive [14] access provider?

[15] **Q:** I'm not limiting my question. If you [16] want to name categories, that's fine. But my [17] question is as broad as I stated it.

[18] **A:** [BROWN] There is within the industry [19] competition for transport. Sitting here today, I [20] can't give you a list of who might be competing for [21] that in Massachusetts. But if you want, I'm sure [22] we can provide, to the best of our knowledge, who [23] might be competing for that.

[24] **A:** [ALBERT] I mean, competitive access

Page 152

[1] providers for access services and for transport [2] have been around for a number of years now, the [3] '90s. Do you need a list of the ones in [4] Massachusetts?

[5] **Q:** No. Would it be accurate to say that [6] Bell Atlantic currently faces more competition in [7] the market for the service offerings that are [8] encompassed in the switch-subplatform offering than [9] it does for end-user loops?

[10] **A:** [ALBERT] I don't know. I connect the [11] wires together and do the cutovers; but when you [12] get to where do we have competitors and how much [13] and who and relative to each other, you're out of [14] my league.

[15] **A:** [BROWN] I would add to that: I have no [16] comparative data for the competition in the two [17] markets. I don't know of any data specifically [18] that addresses that.

[19] **Q:** Would it be accurate to say that in this [20] position statement Bell Atlantic is voluntarily [21] offering UNE combinations on the more competitive [22] side of its network and declining to offer UNE [23] combinations on the less competitive piece of its [24] network?

Page 153

[1] **A:** [BROWN] I'm not aware of any information [2] that drove the decision one way or the other.

[3] **Q:** So we have it in one place: Mr. Albert, [4] the switch subplatform is of no use whatsoever to a [5] CLEC in combining loops and switch elements; is [6] that correct?

[7] **A:** [ALBERT] I think the definition in the [8] document, it does not include the loop and the port [9] being put together. It includes what it describes [10] in here, but that does not include the loop.

[11] **Q:** Is it accurate, Mr. Albert, that the [12] switch-subplatform offering is of no use whatsoever [13] to a CLEC in combining the loop and the switch [14] elements?

[15] **A:** [ALBERT] I'm not sure if I'm really [16] following your question. I mean, what a CLEC would [17] do, they could buy the subplatform, and then they [18] would do the combining themselves, to connect the [19] loop up to it. From that point on they're off and [20] flying.

[21] **Q:** Does the switch subplatform in any way [22] facilitate for a CLEC the combining of a loop [23] element and the switch element?

[24] **A:** [ALBERT] I don't think it's involved

Page 154

[1] with combining loops. I mean, the CLEC would [2] combine the loop to it; but when you're just [3] talking about it unto itself, there's no loop [4] there.

[5] **Q:** Does the enhanced extended-loop service [6] in any way enhance the ability of a CLEC to combine [7] a loop and a switch element?

[8] **A:** [ALBERT] Loop and switch element from [9] Bell Atlantic?

[10] **Q:** Yes.

[11] **A:** [ALBERT] No, the extended link is to [12] combine loop and transport from Bell Atlantic, [13] which would then get hooked up to CLEC-provided —[14] get hooked up to switching provided by the CLEC.

[15] **Q:** In a downtown-Boston central office of [16] Bell Atlantic, does either of you know in any of [17] the central offices in downtown Boston what the [18] current serving capacity by end-user lines is?

[19] **A:** [BROWN] No.

[20] **A:** [ALBERT] Hmm. It's going to vary from [21] one CO to the next.

[22] **Q:** I don't know whether the "hmm" was a [23] negative "hmm" or a positive "hmm"?

[24] **A:** [ALBERT] It was a "hmm" in that the

Page 155

[1] capacity was going to vary by central office.

[2] **Q:** I understand. And I'm asking for any of [3] the downtown-Boston central offices do you know [4] what that capacity is?

[5] **A:** [ALBERT] No.

[6] **Q:** Would it be safe to say it's in the [7] hundreds of thousands?

[8] **A:** [ALBERT] You'll get the very biggest [9] kahunas up around 100,000. That's very big size. [10] Something more average, 50,000, 6,000.

[11] **Q:** If a CLEC wished to compete for all of [12] the end users served by a downtown Bell Atlantic [13] central office, using virtual collocation as [14] outlined in this proposal, how many M400-1400 units [15] would it need?

[16] **A:** [ALBERT] If you're, hypothetically, say, [17] taking 100,000 access lines, I guess the math would [18] be to divide that by 1,400.

[19] **Q:** And how much space would you need to put [20] that many of those units in place?

[21] **A:** [ALBERT] Well, if you get two of those [22] units and a 23-inch-wide, seven-foot-tall frame, [23] then you would need 50 frames that were 23 inches [24] wide and seven-foot tall.

Page 156

[1] **Q:** Could you fit that many frames into a [2] 100-square-foot collocation cage?

[3] **A:** [ALBERT] If you compacted them, you [4] could. It would be a big hunk of metal.

[5] (Laughter.)

[6] **A:** [ALBERT] But under normal design, no, [7] that would not fit in a 100-square-foot cage. That [8] would be clearly ten pounds in a five-pound bag.

[9] **Q:** The installation of these units would [10] require that they be wired from the Bell Atlantic [11] main distribution frame on a circuit-by-circuit [12] basis to the M400-1400 and then wired

back again to [13] the Bell Atlantic main distribution frame; isn't [14] that correct? You'd have to have cross-connects [15] coming from the frame to the unit and from the unit [16] back to the frame?

[17] **A:** [ALBERT] I wouldn't describe them as [18] cross-connects. I wouldn't say they are one at a [19] time. It's tie cables, which are 100-pair, [20] smallest minimum size. We would tie-cable from the [21] distributing frame over for the loops, and then [22] we'd also tie-cable from the distributing frame [23] over for the switchboards. So those tie cables [24] would run off of our Bell Atlantic mainframes, and

Page 157

[1] they would be terminated onto the piece of [2] equipment.

[3] **Q:** And at the point of termination, you'd [4] have to do that line by line?

[5] **A:** [ALBERT] Right.

[6] **Q:** The cable just is a whole bunch of lines, [7] but when you get to the place where you've got to [8] hook them up, you've got to hook them up line by [9] line; right?

[10] **A:** [ALBERT] The connections would be made a [11] line at a time. The cables themselves, you're [12] running them usually in groups of 100.

[13] **Q:** So the CLEC would be dependent on Bell [14] Atlantic making, if we're back to our 100,000 [15] circuits, tying in 100,000 connections to however [16] many of these units we've got and then tying them [17] back to the main distribution frame; correct?

[18] **A:** [ALBERT] For the CON-X equipment, we're [19] talking about?

[20] **Q:** Yes — virtual collocation as proposed by [21] Bell Atlantic in this position statement.

[22] **A:** [ALBERT] We would install the tie cables [23] to the virtually collocated equipment at the time [24] the virtually collocated equipment was installed.

Page 158

[1] **Q:** What would you expect the failure rate, [2] in the sense of either improperly completed [3] connections or improperly — inaccurately placed [4] connections to be where you are making 100,000 [5] connections in and 100,000 connections back to the [6] MDF?

[7] **A:** [ALBERT] I'd say the end product of the [8] job would be very low. I mean, when we install [9] equipment in the central office, we test it out [10] when we're done.

[11] **Q:** You would expect there to be some failure [12] rate, would you not?

[13] **A:** [ALBERT] Some as in something more than [14] zero?

[15] **Q:** Yes.

[16] **A:** [ALBERT] There probably would be [17] something more than zero.

[18] **Q:** At the end of this process, let's assume [19] we're talking about an entire universe of [20] customers, existing customers, of Bell Atlantic who [21] are currently served by Bell Atlantic, and 100,000 [22] customers have decided to switch to the CLEC, and [23] you're providing it through one of these CON-X [24] units, and none of the customers has changed its,

Page 159

[1] his, or her service in any way other than to buy it [2] from the CLEC rather than from Bell Atlantic. Has [3] there been any increase of any sort in the network [4] functionality provided to those customers by virtue [5] of the connections to and from the CON-X [6] equipment?

[7] **A:** [ALBERT] I guess the example you're [8] talking about is so hypothetical, it's a little [9] hard for me to address. If we were to lose 100,000 [10] network access lines in a central office of ours [11] where we had 100,000 customers, we would probably [12] sell the central office, would be the way we would [13] do it.

[14] **Q:** Let's talk about one customer, this is [15] Mr. Salinger, being served through the Harrison [16] Avenue central office by Bell Atlantic. He buys [17] service from AT&T. AT&T says, "All right, we're [18] going to use the virtual-collocation option." We [19] buy a CON-X unit from CON-X, sell to it Bell [20] Atlantic for a buck. You install it. The cross- [21] connections back and forth to the main distribution [22] frame are completed, and AT&T is now serving Mr. [23] Salinger through the CON-X equipment. Has the [24] network functionality, the functionality that

Page 160

[1] provides service to him, been enhanced in any way [2] by the addition of the CON-X equipment to the [3] network configuration?

[4] **A:** [ALBERT] I'll probably sound a little [5] bit like the CON-X salesman at this point, but I'd [6] say yes. What the CON-X equipment does is, if you [7] accept that a typical migration path is for CLECs [8] over time to change out unbundled network elements [9] that they buy from Bell Atlantic and replace them [10] with their own facilities, if you've got a CLEC [11] customer served through a combination that runs [12] through the virtually collocated CON-X equipment, [13] and then at some point if that CLEC wants to [14] transfer the serving arrangement for that customer [15] over to an unbundled loop that would be connected [16] to the CLEC switch, that transfer is now easier, [17] simpler, faster, cheaper to do, that evolution, [18] that migration, as a result of having it go through [19] the CON-X equipment. The three-pins arrangement [20] that Mr. Kennedy was describing, where there were [21] the ILEC inputs, the loop inputs, and the CLEC [22] inputs, that's specifically built and developed to [23] allow that type of a transition and that type of a [24] cutover to occur.

Page 161

[1] **Q:** Let's go back to my question, though, [2] Mr. Albert, which is that Mr. Salinger is now being [3] provided the same service by AT&T that he was the [4] day before being provided by Bell Atlantic. Aside [5] from what may happen somewhere down the road in the [6] future, has the network functionality by which he [7] is provided that service improved in any way by [8] virtue of the addition of the CON-X equipment?

[9] **A:** [ALBERT] I'd say the functionality that [10] the end user is getting has not improved. The [11] functionality of what the CLEC is getting has [12] improved.

[13] **Q:** For the reason you previously stated.

[14] **A:** [ALBERT] Yes.

[15] **Q:** And if the CLEC has no plans or does not [16] convert to its own switching capability, then there [17] is no network-functionality enhancement to the [18] CLEC, either; isn't that true?

[19] **A:** [ALBERT] I can't think of any others.

[20] **Q:** Just to go quickly through some of the [21] other alternatives here: Minicages: These are 25 [22] square feet. In the position statement it's stated [23] that they can accommodate up to 10,000 analog [24] lines. Is that correct?

Page 162

[1] **A:** [ALBERT] That's correct. That would be [2] not the type of CON-X equipment that we were [3] looking at; it would be your basic blocks that are [4] used for making cross-connections in central [5] offices. There's a block called a Krone block, [6] which is pretty standard that we use, and the [7] densities of them, when you would put those [8] together, you could accommodate those quantities of [9] lines.

[10] **Q:** What would a minicage accommodate for a [11] CLEC providing digital lines?

[12] **A:** [ALBERT] If those digital lines are [13] on — being transmitted on copper cable pairs, it [14] would be the same quantity of copper cable pairs. [15] That capacity really refers to the number of wires [16] that you would be able to install

and make [17] connections back and forth between, really [18] independent of the type of service that would be [19] riding on the wires. It could be an analog [20] service. It could be an ISDN BRI service.

[21] **Q:** I'm not going to go back through the [22] drill we went through in December in some detail. [23] But are you familiar, Mr. Albert, with the TELRIC [24] network modeled by Bell Atlantic for purposes of

Page 163

[1] its recurring-cost-study submissions in [2] Massachusetts; that is, how that network is [3] configured, what equipment?

[4] **A:** [ALBERT] No, not in Massachusetts.

[5] **Q:** The subletting proposal, if I understand [6] it correctly, that is another version of physical [7] collocation. It just permits the CLEC that rents a [8] collocation cage from Bell Atlantic to sublet space [9] in its cage to another CLEC; correct?

[10] **A:** [ALBERT] That's correct.

[11] **Q:** And both CLECs would be then physically [12] collocating in that cage.

[13] **A:** [ALBERT] That's correct.

[14] **Q:** And the assembly room is virtually [15] identical to the subletting scenario, except that [16] rather than one CLEC subletting to another, Bell [17] Atlantic simply permits multiple CLECs to occupy a [18] larger collocation space?

[19] **A:** [ALBERT] I wouldn't go quite as far as [20] saying virtually identical. I mean, the cabling [21] arrangements are going to be a little bit [22] different. In the assembly room the CLEC has got [23] the option of installing the cross-connect [24] equipment or having Bell Atlantic own and provide

Page 164

[1] that cross-connect equipment that they would use. [2] So there are a couple of different options there. [3] I think those are described in our proposal.

[4] What we would do with the assembly [5] room, though, is, we would have some standards that [6] we would develop, that basically we would have the [7] CLECs follow as far as the engineering and the [8] cabling arrangements and the setup of the equipment [9] in the room. Again this Krone block, which is what [10] we typically use in the central office for a lot of [11] our connections, it's battleship, highly reliable. [12] The cabling arrangements to that in groups of 100, [13] we would have some standardization there for the [14] setup of the assembly room.

[15] So that basically we'd have a neat, [16] orderly, maintainable administrative arrangements [17] for everybody to use.

[18] **Q:** And everybody would be using it for [19] physical collocation. That's what the assembly [20] room provides; correct? Just in a different kind [21] of space and a different economic arrangement for [22] that space; correct?

[23] **A:** [ALBERT] No, I don't think so. I [24] wouldn't quite call it physical collocation. I

Page 165

[1] mean, the CLEC can own the blocks in there that [2] they use to do the combining, or they can have Bell [3] Atlantic install them and we would own them, and [4] then they would pay for the use of those for them [5] to do the combining. So I don't know if I would [6] really equate that to collocation. But you've got [7] options where they can own it or we can own it.

[8] **Q:** In terms of how the cross-connections [9] from the main distribution frame to the collocated [10] facilities, whoever owns the collocated facilities, [11] and back to the main distribution frame — in that [12] respect the assembly-room arrangement would be the [13] same as what you've previously offered and [14] described as physical collocation; correct?

[15] **A:** [ALBERT] Yes, the tie-cabling [16] arrangements that would take the unbundled loops [17] from Bell Atlantic's main distributing frame and [18] would take the switch ports from Bell Atlantic's [19] main distributing frame, the running of those tie [20] cables to the assembly room would be analogous to [21] the running of tie cables to a physical collocation [22] cage.

[23] **Q:** Mr. Albert, is there any scenario in the [24] various alternatives that are set forth in Bell

Page 166

[1] Atlantic's position statement which would permit a [2] CLEC to sign up an existing Bell Atlantic customer [3] and complete the ordering and provisioning of [4] service to that customer, the transfer of its [5] existing Bell Atlantic service to the CLEC, using [6] UNEs on a completely electronic flow-through basis [7] beyond the manual service-order-entry process?

[8] **A:** [ALBERT] No, and even if we were doing [9] the combining ourselves in the pre-Eighth Circuit [10] mode, you wouldn't have that either. I mean, the [11] translations work; that has to be done. The [12] instructions in the switch that tell that line how [13] to function, that is not and will not be [14] automated. So the translations work to take that [15] line as a Bell Atlantic - Massachusetts end user [16] and to retranslate it and set it up as an [17] unbundled-switch port, unbundled-switch line, [18] changing the class of service, changing the [19] line-class codes, changing the advanced intelligent [20] network triggers that we set on the line — all [21] that work will always have to be done for every [22] unbundled switch port, independent of who combines [23] it together.

[24] **Q:** Let me make my hypothetical a little

Page 167

[1] clearer. I'm taking an existing Bell Atlantic [2] end-use customer — let's make him or her a [3] residential customer — and has residential service [4] from Bell Atlantic, with facilities in place all [5] the way to the central office serving that [6] customer. And let's assume that customer moves out [7] of the home. My understanding — and it's been [8] testified to by your predecessors for Bell Atlantic [9] on the stand here — is that Bell Atlantic in that [10] scenario simply leaves in place the physical [11] network facilities that have served that customer. [12] Is that your understanding of the general practice [13] of Bell Atlantic?

[14] **A:** [ALBERT] General practice? I wouldn't [15] generalize on it. I mean, we attempt to do that.

[16] **Q:** Let's assume in my hypothetical you've [17] done them.

[18] **A:** [ALBERT] Okay.

[19] **Q:** And a new customer moves into that [20] residence three days later and signs up for [21] identical service from Bell Atlantic; that is, [22] identical to what the prior customer was [23] purchasing. It has been testified to here by two [24] prior Bell Atlantic witnesses that Bell Atlantic

Page 168

[1] can provision service to that customer, other than [2] the manual process of taking the service order —[3] the operating support systems will electronically [4] on a flow-through basis complete all of the steps [5] necessary to reinstate service to that new [6] customer. That is your understanding?

[7] **A:** [ALBERT] If we would be talking about [8] reinstating Bell Atlantic service —

[9] **Q:** That's what we're talking about.

[10] **A:** [ALBERT] Yes. If we're talking about [11] changing that from Bell Atlantic service to [12] unbundled switching, no.

[13] **Q:** We're talking about changing Bell [14] Atlantic service, the first of your options. So [15] that's done electronically on a flow-through basis [16] by Bell Atlantic using its operating support [17] systems; correct?

[18] **A:** [ALBERT] Some of the times.

[19] Q: On one of the times when that would be [20] done electronically and on a flow-through basis for [21] Bell Atlantic, if the new customer purchased [22] service from a CLEC, identical service, and the [23] CLEC chose to provide that service through [24] unbundled network elements purchased from Bell

Page 169

[1] Atlantic, under the various scenarios proposed in [2] Bell Atlantic's position statement, there is no [3] circumstance in which the CLEC could provision that [4] service on an electronic flow-through basis; isn't [5] that correct?

[6] A: [ALBERT] That's correct. Bell Atlantic [7] would have translations work that we would have to [8] do to convert every one of those lines.

[9] Q: You discussed in your opening statement [10] several alternatives that CLECs had raised in [11] various forums in various ways, and you described [12] the deficiencies with each of those, one of which [13] was logical unbundling through the recent-change [14] process; correct?

[15] A: [ALBERT] That's correct.

[16] Q: And logical unbundling, that phrase is [17] intended to distinguish unbundling using software [18] from physical unbundling, where things are actually [19] taken apart out in the central office or out in the [20] field. Is that an accurate statement?

[21] A: [ALBERT] Well, I think the labeling, the [22] term that's been used for that I think is a [23] misnomer. You cannot use that capability of the [24] switch to unbundle anything. That capability does

Page 170

[1] not disconnect the loop from the switch port. What [2] this capability does is, it activates the switching [3] service. But it doesn't have anything to do with [4] the connecting of the loop to the switch. It [5] preassumes the loop is already connected to the [6] switch. Then what it really does is, it activates [7] the switching service. But it is not connecting [8] the loop to the switch.

[9] MR. LEVY: Could we back up on this [10] one? I don't understand what the concept is at [11] all, and it would help me to know what it actually [12] means.

[13] MR. JONES: Could I keep going? I am [14] going to press ahead. I don't know if it will [15] help. You'll tell me if it doesn't.

[16] WITNESS ALBERT: Would you like me to [17] take a shot at that?

[18] Q: Let me ask you a couple of questions, Mr. [19] Albert. We're talking about a functionality, as I [20] understand it, in the switch provided by the [21] recent-change memory administration — what's the [22] last "C" in RCMAC?

[23] A: [ALBERT] "Center."

[24] Q: Would you describe the recent-change

Page 171

[1] functionality in Bell Atlantic's existing operating [2] support systems?

[3] A: [ALBERT] The recent-change functionality [4] is the method for defining instructions to the [5] switch of how a switched line will operate. You [6] specify the features that will be on that line. [7] Will it have call-waiting? Will it have three-way [8] calling? Will it have speed calling? You specify [9] the type of calling privileges that it will have, [10] the calling area. You specify other dialing [11] instructions, different types of blocking — for [12] instance, for 900. You specify the class of [13] service: Is it a flat rate? Is it a measured? [14] You specify the type of recording that will be done [15] for billing purposes. You specify the PIC, the [16] interexchange carrier. All the different [17] switch-related features, functions, and parameters [18] associated with that line are established through [19] recent change, which is setting up the instructions [20] and the messages to define how that switched line [21] will work.

[22] Q: This is an operating support system which [23] performs those functions by software-driven [24] procedures; correct?

Page 172

[1] A: [ALBERT] By people. You know, it's [2] people talking through a terminal to the switching [3] machine. Now, the system itself, there are further [4] degrees of mechanization that are set up that are a [5] part of that process. There are checks that are [6] made and routines that are run to the instructions [7] that the human being inputs from the terminal.

[8] Q: The recent-change process determines [9] which switch functionalities are available on which [10] line. Is that an accurate statement?

[11] A: [ALBERT] Yes.

[12] Q: So when a switch port has a line [13] connected to it, the recent-change process dictates [14] which of the switch functions are available to, [15] accessible to that line?

[16] A: [ALBERT] It would take the loop that's [17] connected to the switch, and it would say here are [18] the features and the functions that will be placed [19] on that dial-tone service.

[20] Q: And the recent-change process permits [21] Bell Atlantic to essentially disable all switch [22] functionalities from a particular line?

[23] A: [ALBERT] To disable and change, yes.

[24] Q: And you can't using recent change

Page 173

[1] physically disconnect a line from a switch; [2] correct?

[3] A: [ALBERT] That's what I was getting at. [4] The recent change has nothing to do with [5] disconnecting the loop from the switch or with [6] connecting the loop to the switch. It's purely [7] establishing the features and the functions of the [8] switch that are already connected to that loop.

[9] Q: And if you thought of unbundling in terms [10] of not physically disconnecting a loop from a [11] switch but, rather, as disabling the switch [12] functionalities from that particular loop, in that [13] sense recent change can, if you accept my sense of [14] unbundling — in that sense recent change can [15] unbundle a switch functionality from a loop. [16] Correct?

[17] A: [ALBERT] I guess I would disagree and [18] not accept your definition of unbundling.

[19] Q: I know you would not, but for purposes of [20] my question, if you accept that — and I'm not [21] suggesting that you do. But if you accept that, [22] that's an accurate description, is it not?

[23] A: [ALBERT] Again, I don't think so, [24] because I don't think you were using that to

Page 174

[1] unbundle. To me, unbundling is separating the loop [2] from the switch. If you've still got the loop [3] connected to the switch, it's not unbundled.

[4] MR. LEVY: Just so I'm clear, this [5] RCMAC — what you're saying, Mr. Jones, and I guess [6] you would like to hear Mr. Albert say, is that that [7] functionality, that OSS can be used in essence to [8] disengage, as opposed to unbundle — disengage the [9] switch functionality from the loop functionality.

[10] WITNESS ALBERT: No, I would say it [11] does not disengage those two functionalities from [12] each other. It will change the switch [13] functionality. It will turn off the switch [14] functionality. But it doesn't disengage it from [15] the loop.

[16] MR. LEVY: Can it act so that there [17] is no switch functionality that is being used by [18] that loop; in other words, turn off the switch [19] relative to the loop?

[20] A: [ALBERT] Yes, it can turn the switch [21] off, yes.

[22] MR. LEVY: I was using the word [23] "disengage" in that way. I'm not saying physical [24] disengagement. I'm saying it can make it appear as

Page 175

though there's no switch attached to that loop, in terms of what the loop is able to accomplish.

WITNESS ALBERT: Ask me that question again?

MR. LEVY: Is it smart enough to turn off whatever electronics and CPU capacity exists in the switch so that the loop basically can't function as a loop?

WITNESS ALBERT: I'd say the loop still functions as a loop. It will shut dial tone off.

MR. LEVY: Then you just have a wire in the ground; right?

WITNESS ALBERT: It's still a loop.

MR. JONES: A dead loop.

MR. LEVY: It's physically attached to the switch, and dial tone can be turned on again. But if I'm understanding the point of Mr. Jones's questions, it's that it's possible to use that OSS to make the loop unfunctional carrying information.

WITNESS ALBERT: I don't know if I would go as far as to describe it that way. I'd say you would take the dial tone off it. You

Page 176

haven't made the loop dysfunctional.

MR. LEVY: I said "unfunctional."

WITNESS ALBERT: You haven't made it unfunctional. The loop is still capable of doing what it does; it just doesn't have any dial tone hanging on it.

MR. LEVY: We could also attach a can to each end of it.

WITNESS ALBERT: That may be where we're heading.

(Laughter.)

Q: What functionality does a loop have without dial tone? What can a customer do with it?

A: [ALBERT] Transport. Nonswitch special services is a perfect example. You can do lots of things with a loop without dial tone.

Q: Dedicated transport.

A: [ALBERT] Yes.

Q: What functionality does a standard, residential-service loop have when a customer has moved out — strike that.

When a Bell Atlantic customer moves out, a residential customer, whatever usual

Page 177

configuration you have serving that customer, one of the things that Bell Atlantic does now is to leave left-in or soft dial tone to that end-use space; isn't that correct?

A: [ALBERT] Sometimes.

Q: And that is a recent-change function by which that is done; is that correct?

A: [ALBERT] When you turn the dial tone off, you turn the dial tone off through a recent change.

Q: And you leave whatever capability it is that permits you to provide left-in dial tone? That's done through recent change as well?

A: [ALBERT] What do you mean by — what's your definition of "left-in dial tone"? Because there are three or four different flavors of that you can run into that people use.

Q: Are some of those flavors achievable through the recent-change process?

A: [ALBERT] Where you leave all connections in place and you remove the dial tone from all those, that's achievable through a recent change.

Q: Now, you said in your opening statement, Mr. Albert, if I wrote fast enough and understood

Page 178

well enough, that, first of all, Bell Atlantic does permit Centrex customers to access the recent- change software-driven functionality of the network for certain purposes. Is that an accurate statement?

A: [ALBERT] The functionality of the network? Yes. There's a system that will set out in front of the RCMAC function that the Centrex customers will work through to do things like change speed calling, move call-waiting from one line to another line, do rearrangements with telephone numbers. There are a number of limited activities that they can change for a specific defined group of lines which they are able to access.

Q: And the thing that sits out in front of the RCMAC is the so-called firewall?

A: [ALBERT] It's more than a firewall. It's the two different systems that I've described that we've got in Massachusetts, one which is called MACSTAR, and the other which is the acronym CCRS, which is a Bellcore product. MACSTAR was originally a Lucent product and is now handled by another vendor. But that sits out and ties into

Page 179

the recent-change capability and is used to provide these Centrex types of changes.

Q: And one of the purposes is to ensure that a Centrex customer can access and fiddle around only with that customer's own Centrex lines; correct?

A: [ALBERT] Once you have defined to it the universe of lines that it can fiddle with, which is much different than the capability that we're talking about that would have to be developed for using this to have any CLEC turn on and off any line that was connected to the switch. That's where you get into the security and the partitioning and the large amount of development. It's one thing to say, " Here's a predefined group of lines, and only one person can go in and monkey with them." It's something else to say, "Here's a multiple number of people that can go in and monkey with any line throughout the whole switching machine." That's the two big differences we're talking about between what would exist and what would have to be.

Q: What would it cost and how long would it take to perform the development work necessary to

Page 180

create that functionality that you just described?

A: [ALBERT] I don't have any estimates on it. We've had some preliminary discussions with the vendors. We're talking more than a year, and we're talking big bucks.

Q: Bell Atlantic has over the last two years plus performed a variety of different operating- support-system modifications in anticipation of providing service at wholesale rather than just retail levels. Isn't that an accurate statement?

A: [ALBERT] Yes, we've developed a number of systems and interfaces and tied them together.

Q: And Bell Atlantic has proposed for recovery in this and other jurisdictions in excess of $100 million in operating-support-system development costs in order to recover the costs it claims it incurred in those OSS modifications; correct?

A: [ALBERT] I'm not the cost person and I'm not sure what we've gone after recoverywise or cost-procceding-wise.

Q: And what would be required to achieve the recent-change functionality of the sort you just described, which is lots of different carriers

Page 181

being able to access all of the lines, would require OSS modifications;

specifically, [3] modifications to and around the RCMAC system. [4] Correct?

[5] **A:** [ALBERT] Actually, it would be [6] modifications to a number of OSS's. You've got the [7] MACSTAR and the CCRS systems themselves. You've [8] got the RCMAC system that they've talked to. You [9] would also have systems for ordering and [10] provisioning and billing that they have to tie into [11] that would have to be developed. And then all [12] these things talk to two different switches, [13] switches that are made by Northern Telecom, [14] switches that are made by Lucent. You'd have [15] tie-ins and hooks into those that would have to be [16] worked as part of the overall development.

[17] So it's quite a number of systems [18] that would have to be modified.

[19] **Q:** And every one of those modifications [20] would be of the same sort, of the same type, as the [21] modifications to the OSS's that Bell Atlantic has [22] already performed and the cost of which it is now [23] attempting to recover in this 100-million—dollar- [24] plus package of costs. We're talking specific

Page 182

[1] systems and specific modifications, but it's the [2] same kind of software changes and the like that [3] would be required. Isn't that correct?

[4] **A:** [ALBERT] No, I'd have no basis for [5] saying that. I'm not familiar enough with the [6] depths and the complexities of what's been done for [7] the other OS systems.

[8] **Q:** If those changes were made and if CLECs [9] could have access to the recent-change process, [10] CLECs could perform the disabling of the switch [11] functionality on a particular loop and the [12] reenabling of switch functionality on that [13] particular loop through the recent-change process, [14] could they not?

[15] **A:** [ALBERT] I mean it's possible through [16] all this development work that you'd have an [17] environment where multiple CLECs could turn dial [18] tone on and off through all these developed systems [19] to an end user.

[20] **Q:** And in those situations where you could [21] do that, there would be no necessity or requirement [22] or need for any physical activity in the central [23] office, either through collocation cages or at the [24] main distribution frame. It could be done through

Page 183

[1] the recent-change OSS, just as Bell Atlantic does [2] now. Correct?

[3] **A:** [ALBERT] For the number of cases where [4] we do that now, yes. I mean, I think what's [5] important to bear in mind is, when you're doing [6] combinations, and if you look at the ones that [7] we've actually done in the pre-Eighth Circuit mode, [8] there are quite a few where not everything is there [9] and in place and you just reuse it. We have done [10] roughly 600 pre-Eighth Circuit combinations in the [11] South. We've done roughly a thousand in the [12] North. About 50 percent of the time they were new [13] lines, new orders, rearrangements, and 50 percent [14] of the time you didn't have the facilities there to [15] reuse.

[16] The arrangements that we then talked [17] about earlier, which is, yes, we try and reuse all [18] the connections in place — in offices where we try [19] to do that, if we can reuse them 40 percent of the [20] time, we're doing good. That's because for [21] businesses there are frequently so many changes [22] that happen that we aren't able to reuse them. [23] It's for the amount of equipment on the switching [24] machine; we can't leave it there idle long enough

Page 184

[1] to be able to use it for a reuse.

[2] So with combinations you get the [3] situation where first you even only have the [4] opportunity half of the time, from what we've [5] experienced, to reuse the stuff; and then of that, [6] only 40 percent of that half of the time do we [7] actually accomplish reusing connections.

[8] So the universe is much narrower than [9] thinking, boy, every single time you're going to be [10] able to reuse all these connections that are [11] already there.

[12] **Q:** I take it, Mr. Albert, the data you've [13] just recited is set forth in Bell Atlantic internal [14] reports of one sort or another?

[15] **A:** [ALBERT] No, that's in my head from my [16] experience.

[17] **Q:** I'm going to make a record request for [18] any documentation that Bell Atlantic has that can [19] provide support for any of the 40 percent, 50 [20] percent figures that you just provided to us.

[21] **A:** [ALBERT] Okay.

[22] **MR. LEVY:** We'll call that Record [23] Request Combinations 10.

[24] **(RECORD REQUEST.)**

Page 185

[1] **Q:** With respect to those occasions when the [2] equipment is in place and it is reusable, it's with [3] respect to those service-provisioning scenarios, [4] Bell Atlantic can provision service on a complete [5] electronic flow-through basis using the RCMAC and [6] other OSS's. Isn't that correct?

[7] **A:** [ALBERT] That's for ourselves?

[8] **Q:** Yes.

[9] **A:** [ALBERT] Some of the time. We always [10] get fallout. That's why I said, we are not [11] successful, even if they are in place, in reusing [12] them. We get fallout in the different systems. We [13] get fallout in the RCMAC systems, in the assignment [14] systems.

[15] **Q:** Are you familiar with the fallout rates [16] that Bell Atlantic has assumed for purposes of its [17] nonrecurring-cost study and OSS-cost study it [18] submitted in Massachusetts?

[19] **A:** [ALBERT] No.

[20] **Q:** Are you familiar with the experiential [21] basis on which those fallout rates are determined?

[22] **A:** [ALBERT] No, not for the cost studies.

[23] **MR. LEVY:** Let's take a break.

[24] (Recess taken.)

Page 186

[1] **MR. LEVY:** We have a couple of [2] questions from the Bench.

[3] **EXAMINATION**

[4] **BY MS. EVANS:**

[5] **Q:** I want to go back to ask a couple of [6] questions regarding how the CON-X works. When the [7] CON-X equipment is set up in a central office, are [8] all the subscriber lines prewired to the CON-X [9] equipment, so they all appear on the CON-X [10] equipment, and therefore no physical work needs to [11] be done, outside of what the CON-X equipment does, [12] to wire or change that subscriber from a Bell [13] Atlantic subscriber to a CLEC subscriber?

[14] **A:** [ALBERT] No physical work by the CLEC [15] will be required at that point. There would be the [16] tie cables that run from the Bell Atlantic main [17] distributing frame for loops and for ports, would [18] run to the CON-X equipment. Bell Atlantic would [19] then make the connections from the subscriber loops [20] and the subscriber switch ports to those tie [21] cables. And then the CLEC remotely, through the [22] computer terminal, would then specify which of the [23] tie-cable inputs and outputs to connect together.

[24] So the CLEC does not have to come to

Page 187

[1] the central office to do physical work for that. [2] Bell Atlantic technicians between the distributing [3] frame and the tie cables would have to do physical [4] work.

[5] **Q:** Therefore do I understand correctly that [6] the only subscribers that would show up on the [7] panel that would be wired to the panel would be [8] subscribers that are changing from Bell

Atlantic to [9] a CLEC?

[10] **A:** [ALBERT] That's right.

[11] **Q:** Not all the subscribers in the central [12] office.

[13] **A:** [ALBERT] That's right. What the tie [14] cables do is, that gives the ability for all of the [15] subscribers in the central office, if they need to, [16] to access that equipment. But the tie cables are a [17] much smaller subset of what would actually be used [18] to actually access it.

[19] **Q:** I have one further question, regarding [20] the assembly-room setup. Do I understand correctly [21] that the assembly room allows multiple CLECs to [22] work on a frame, in essence?

[23] **A:** [ALBERT] In essence, each CLEC would [24] have their own frame in that room, and they would

Page 188

[1] be able to combine and to work on circuits for [2] their customers, all contained in the same room.

[3] Now, I would recommend — and I don't [4] think we put it in the proposal. But I would [5] recommend the equipment that you buy, or can buy, [6] that would fit can come with locking covers, and [7] I'd recommend that most CLECs would want to put the [8] locking covers on and use them for security [9] purposes.

[10] But in essence, each CLEC all within [11] that same room is building their own frame that [12] only they work on. So you don't have five CLECs [13] all working on a common, single piece; they've all [14] got their own.

[15] **Q:** And for security purposes you would [16] suggest that these frames could be locked up in [17] some way?

[18] **A:** [ALBERT] Yes, there are covers that come [19] down over the front of the frames that can be [20] locked. And again, I don't think we put it in the [21] proposal, but I would recommend with the type of [22] equipment that would be deployed, that using those [23] would then allow the CLEC to lock up the front of [24] where the connections are made. I think that would

Page 189

[1] provide a better and more secure environment for [2] their services in this room that they can all [3] access.

[4] **Q:** Thank you.

[5] **EXAMINATION**

[6] **BY MR. LEVY:**

[7] **Q:** I have a further question on the [8] assembly-room concept. Referring to Page 15 of [9] your submission, Exhibit BA Combinations 2. In the [10] footnote it says, "Costs of the assembly room will [11] be less than current physical collocation prices [12] because environmental conditioning, battery [13] support, cable vault space, and riser space will [14] not be required." Why would environmental [15] conditioning not be required in an assembly room, [16] as opposed to a regular collocation cage?

[17] **A:** [ALBERT] Because the collocation cage is [18] in an overall area, where environmental [19] conditioning is providing for other CLECs that have [20] transmission equipment. In the assembly room there [21] would be no electronics, no transmission equipment [22] at all, appearing. The assembly room would be for [23] the purposes of recombining loops to switch ports [24] for the specific arrangements we specified, which I

Page 190

[1] think were POTS. I think ISDN was in there.

[2] Now, for those combinations you don't [3] need any battery, you don't need any power [4] equipment. All you need are these cross-connect [5] blocks and cables. So there's no electronics; [6] there's no transmission equipment. We thought this [7] would be something that would be an attractive [8] savings compared to what the conventional physical [9] collocation space surrounding a common area is.

[10] So by putting these blocks in, they [11] don't need the environmentals. They don't need the [12] temperature. They don't need the dust. They don't [13] need the air conditioning. They don't need the [14] power leading to it. So that unto itself is [15] cheaper space to provide.

[16] **MR. LEVY:** Ms. Barbulescu?

[17] **CROSS-EXAMINATION**

[18] **BY MS. BARBULESCU:**

[19] **Q:** Ms. Brown, you stated before that UNE [20] combinations were less expensive than resale. [21] Could you please provide —

[22] **MS. BARBULESCU:** Mr. Levy, I'd like [23] to ask a record request, that Ms. Brown provide all [24] the backup analysis that went into that conclusion

Page 191

[1] for all the density zones in Massachusetts.

[2] **A:** [BROWN] I think we're going to be [3] providing something similar to that in the record [4] request that we're going to be providing for the [5] DTE.

[6] **MR. LEVY:** I missed the beginning of [7] what you were asking.

[8] **Q:** I thought it was a different question [9] from the one that Mr. Levy had asked for before. [10] The information I asked for was the cost analysis [11] that led Ms. Brown to her conclusion that UNE [12] combinations were less expensive than resale in [13] Massachusetts. I'd like it for all density zones.

[14] **A:** [BROWN] Sure.

[15] **MR. LEVY:** Actually, I had asked for [16] a few examples. Yours is a larger request than [17] that, I think. So, to the extent answering Ms. [18] Barbulescu's request takes care of the other one, [19] you can just do hers.

[20] **WITNESS BROWN:** We'll make sure [21] they're both answered.

[22] **MR. LEVY:** That was Record Request [23] No. 11.

[24] **(RECORD REQUEST.)**

Page 192

[1] **Q:** The final question I have, and then I [2] think Mr. Mandl has some questions for you: With [3] respect to the switch-subplatform proposal, what [4] CLEC asked BA to develop that proposal, or is that [5] something that Bell Atlantic just developed on its [6] own?

[7] **A:** [BROWN] I don't know.

[8] **Q:** Do you know if any CLECs have requested [9] purchasing such a combination?

[10] **A:** [BROWN] I don't know.

[11] **Q:** Could I ask another record request, that [12] we find out whether any CLECs have requested this [13] from Bell Atlantic, either the development of such [14] a proposal or an actual combination.

[15] **MR. LEVY:** That would be Record [16] Request 12.

[17] **(RECORD REQUEST.)**

[18] **CROSS-EXAMINATION**

[19] **BY MR. MANDL:**

[20] **Q:** Just a few questions. I'd like to ask [21] the witnesses first about the enhanced extended- [22] loop-service proposal. Under that proposal the [23] CLEC that wants to use the UNE loops would have [24] those loops delivered to one collocation node per

Page 193

[1] LATA; is that right?

[2] **A:** [ALBERT] If they chose. They could have [3] them delivered to more. But a minimum would be one [4] per LATA. If they wanted to drop them off at [5] additional locations, they certainly could.

[6] **Q:** Has the company developed a rate for this [7] enhanced extended-loop service?

[8] **A:** [BROWN] I don't believe that has been [9] developed for Massachusetts at this time.

[10] **MR. LEVY:** Can I stop you for a [11] second? Can we believe that the rate is anything [12] other than the combination of the two UNE rates; [13] that is to say,

transport and link?

[14] **WITNESS ALBERT:** There's some [15] multiplexing in there. I'm not sure in terms of [16] rates and elements where that would get captured. [17] But that functionality has to be

[18] **WITNESS BROWN:** All the costs may be [19] covered in UNE rates we've already provided. I [20] just simply don't know, sitting here. We'd be glad [21] to take a look at that. But it's sort of an Amy [22] question, and she's not here. I don't know the [23] answer specifically, but I'd be glad to get you the [24] information.

Page 194

[1] **MR. LEVY:** I'd like to make that a [2] record request, No. 13, as to what the rate [3] elements would be for enhanced extended-loop [4] service.

[5] **(RECORD REQUEST.)**

[6] **Q:** If a CLEC were to use enhanced [7] extended-loop service, it would be running loops [8] from a number of different locations within a LATA [9] to this single collocation node; correct?

[10] **A:** [BROWN] If you chose to use it that way, [11] yes.

[12] **A:** [ALBERT] And from a number of different [13] central offices, which would then be collected [14] together, and then it would be a number of loops [15] within each one of those central offices collected [16] together and then taken to the single point in the [17] LATA.

[18] **Q:** For calls originating from these [19] different central offices and traveling to the [20] single collocation node in a LATA, how would those [21] calls be rated?

[22] **A:** [BROWN] That would depend on how the [23] CLEC assigned telephone numbers to the loops.

[24] **Q:** Well, let's go back to the basics of the

Page 195

[1] serving arrangement and start with an end user who [2] was served through this enhanced extended-loop [3] service. There will be a loop from that customer's [4] premises going somewhere. Whose loop will that [5] be? Will that be a Bell Atlantic loop?

[6] **A:** [ALBERT] Yes.

[7] **A:** [BROWN] Yes.

[8] **Q:** And that loop will travel where?

[9] **A:** [ALBERT] To Bell Atlantic's central [10] office.

[11] **Q:** To a Bell Atlantic central office.

[12] **A:** [ALBERT] To the Bell Atlantic central [13] office that it is served by.

[14] **Q:** So the call is originating, let's say, [15] hypothetically, in one wire center in the LATA, and [16] it's traveling to this single collocation node that [17] might be in another wire center in the LATA; [18] correct?

[19] **A:** [BROWN] Right. Why don't we call the [20] first Wire Center A and the second one B.

[21] **Q:** And once the call reaches this [22] collocation node, then where does it go?

[23] **A:** [ALBERT] Then the CLEC would put the [24] connections onto their transport facilities to

Page 196

[1] carry that loop to their switch, wherever it may be [2] located, to deliver dial tone to it.

[3] **Q:** The location of the CLEC switch — in [4] that scenario, how will the rating of the call be [5] determined? If we have a call originating in one [6] wire center off of this enhanced extended loop, it [7] travels into another wire center in the LATA where [8] the collocation site is located, and then it's [9] transported to the CLEC's switch, which may be in [10] yet a third wire center within the LATA. How is a [11] call like that going to be rated?

[12] **A:** [BROWN] Let's talk about what we mean by [13] "a call." The end user in Office A is getting [14] dial tone from, let's say, MCI's switch, which is [15] located near Office B. MCI's switch — a number is [16] going to be assigned to the end user in Office A. [17] That number will have an NNX that's associated with [18] an exchange area that's been designated. Are we [19] together at this point?

[20] Now, who's making the call? If the [21] customer out of Office A — and let's give them a [22] 555 exchange, just for some novelty here. The [23] customer in Office A has a 555 number assigned by [24] the CLEC. What are you asking me, how that

Page 197

[1] customer's call is going to be rated? What are we [2] rating here?

[3] **Q:** Well, a call originates with the end [4] user, who is physically located within —

[5] **A:** [BROWN] He draws dial tone off of the [6] CLEC's switch with a number that's associated with [7] his end office. It's a call to where?

[8] **Q:** The call is going to — let's say it's [9] within the LATA, going to a wire center that's not [10] where the CLEC's switch is located, a different [11] wire center.

[12] **A:** [BROWN] Let's say it's Wire Center C. [13] In your example, the telephone number that the CLEC [14] has assigned to the customer out of Office A is [15] assigned to Office A for rating purposes. That's [16] what the basic interconnections that we've done in [17] prior hearings, the recurring charges — we [18] assigned the number to a center. So it's as if [19] that call is coming from Center A and going to [20] Center C, I think is what the question is. It's [21] terminating back to our network.

[22] **MR. LEVY:** I think the question is: [23] Is there anything about this extended-loop-service [24] arrangement that would change the way in which a

Page 198

[1] particular call is rated for a particular customer [2] whose call ends up going through this extended-loop [3] service? Does it change anything about the billing [4] that would occur for that call?

[5] **WITNESS BROWN:** To the best of my [6] knowledge, the answer is no, because the billing's [7] not done off the loop end, it's done from the [8] CLEC's — it's assumed that the call is coming from [9] the CLEC's switch, it's coming into our LATA. For [10] rating purposes, it's rated, as I understand our [11] agreements, from the NNX, which for rating purposes [12] is out of Office A. So from a rating standpoint, [13] it's transparent. The driver here is where the NNX [14] is assigned to. And the loop function isn't [15] relevant. The loop function of enhanced extended [16] loop is bringing it to the CLEC's cage so it can go [17] to the CLEC's switch.

[18] **WITNESS ALBERT:** We're providing an [19] alternative means of transport for the CLEC to get [20] from that loop to their switch that provides dial [21] tone. So rather than the CLEC having to collocate [22] in the Bell Atlantic office and carrying it that [23] way to their switch, this is an alternative way for [24] them to take that loop and carry it to their

Page 199

[1] switch.

[2] **Q:** Let's use this hypothetical. There's an [3] MCI customer in Wire Center A physically located [4] within Bell Atlantic's Wire Center A, using [5] enhanced extended-loop service. It makes a call [6] which goes to the collocation node in Wire Center B [7] and then is transmitted to Wire Center C, where [8] MCI's switch is located. It happens that the [9] person that is being called is across the street [10] from Wire Center A. That call will be rated [11] differently than would a call that originated in [12] Wire Center A through a collocation arrangement in [13] Wire Center A and is transported to the receiving [14] party in Wire Center A, won't it?

[15] **A:** [BROWN] I don't agree. I mean, this is [16] a CLEC call.

[17] **A:** [ALBERT] That's the same-same.

[18] **A:** [BROWN] I don't think I agree with your [19] example.

[20] **MR. LEVY:** Is the issue here how it's

[21] rated from the point of view of the customer versus [22] how much the CLEC is paying to have that call [23] delivered and sent back?

[24] **MR. MANDL:** Yes.

Page 200

[1] **A:** [BROWN] I don't understand.

[2] **MR. LEVY:** Which are you asking?

[3] **MR. MANDL:** We went through this in [4] the area-code proceeding.

[5] **A:** [BROWN] How the CLEC rates the call is [6] up to the CLEC. It's a CLEC customer coming off a [7] CLEC switch. So how you choose to have your [8] calling areas is your choice. The relevant charges [9] from Bell Atlantic are the interconnection charges, [10] reciprocal compensation in the case of this call. [11] I think those rules pretty clearly establish as to [12] which charges apply, how they're applied.

[13] **Q:** We went through this in the area-code [14] case, where the CLECs, if you will, stressed the [15] importance of having numbers assigned in individual [16] wire centers for local calls, for the reason that [17] if they were taking — if they were serving a given [18] area through a switch that was on a different wire [19] center, the calls would be rated differently by [20] Bell Atlantic and the end users would end up paying [21] more for for a call that went through that type of [22] routing.

[23] **A:** [BROWN] I don't know what you went [24] through in the area-code case; but in what I just

Page 201

[1] described to you, I think your concern is dealt [2] with in that the CLEC assigns the three-digit [3] number to the end office.

[4] Let's say we had six different end [5] offices; that the CLEC chose to take customers from [6] those end offices and bring them all into one [7] collocation cage. The CLEC certainly has the [8] option of taking six NNX codes, assigning one to [9] each end office, and assigning customers it has in [10] that end office numbers from that NNX code. The [11] CLEC tells Bell Atlantic what the NNX office is for [12] rating purposes. So whether you locate in all six [13] end offices or have those loops hauled back to one [14] collocation cage is irrelevant for rating [15] purposes.

[16] **A:** [ALBERT] For rating purposes, how the [17] CLEC gets to their switch and even where that [18] switch is located doesn't make any difference. We [19] have had cases where the end-user loop is in [20] Baltimore, the first remote switch of the CLECs was [21] in northern Virginia, and the actual switch where [22] they got their dial tone was in Texas. In those [23] arrangements the switch can be anywhere, and it [24] doesn't matter how they get there, but the calls

Page 202

[1] are still rated the same.

[2] **Q:** In the area-code proceeding it was [3] discussed that CLECs needed NNX codes on a wire- [4] center basis in order to have calls rated as local [5] calls within that wire center.

[6] **A:** [BROWN] Yes.

[7] **Q:** Do you agree with that?

[8] **A:** [BROWN] If you have — the example I [9] gave, in the Office A, the exchange wire center [10] we're talking about — we're talking about an [11] exchange here. The example I gave you is, you [12] would put an NNX in each exchange, and that would [13] be associated with that exchange, and calls to that [14] number would be local or toll, depending upon who [15] was calling it. The rating that the CLEC puts on [16] the call is up to the CLEC. But if you're asking [17] if Bell Atlantic customers calling that number [18] would have their calls rated as if they were going [19] right within the exchange, A to A or B to A, [20] whatever was the appropriate or relevant tariff is [21] charged.

[22] **Q:** In the area-code situation, if a CLEC [23] were serving the customer in Wire Center A but did [24] not have NXX codes associated with Wire Center A,

Page 203

[1] there are some calls that would be rated as toll [2] calls rather than local calls as a result of the [3] lack of NXX's in Wire Center A. Isn't that right?

[4] **A:** [BROWN] I think you're setting up a [5] different hypothetical. In that you're saying, if [6] a CLEC doesn't have enough numbers and he brought [7] calls in from — assigned one code and assigned it [8] to an office, it has nothing to do with our [9] enhanced extended-loop offering. It has to do with [10] the CLEC's numbers and the CLEC's ability to assign [11] an NNX code per exchange area.

[12] **Q:** If a CLEC has a customer in Wire Center [13] A, has its switch in Wire Center C, isn't it going [14] to have numbers associated with Wire Center C?

[15] **A:** [BROWN] It can have numbers associated [16] with —

[17] **A:** [ALBERT] The whole state, if they want.

[18] **A:** [BROWN] — the whole state. We may have [19] 267 exchanges, wire centers, whatever we're talking [20] about here — places where you have for rating [21] purposes. A CLEC can have one switch. You can map [22] to whatever number — those numbers to whatever [23] places they want to for rating purposes. But [24] that's not the function of enhanced extended loop.

Page 204

[1] **Q:** You're saying irrespective of where the [2] CLEC's switch is within a LATA the CLEC has the [3] ability to reserve NXX codes that relate to wire [4] centers in which the switch is not located?

[5] **A:** [BROWN] Of course. I'm not aware of any [6] CLEC that is planning to have switches to be [7] coterminous with each and every one of our [8] switches. I don't know of any requirement to do [9] that.

[10] **Q:** And if a CLEC were unable to obtain all [11] these NXX codes to match up with each and every [12] wire center in a LATA where it didn't have those [13] NXX codes, then the calls would be rated [14] differently.

[15] **A:** [BROWN] Well, we aren't talking about [16] enhanced extended loop. What you're talking about [17] is NPA and NPA exhaust and the inability of NNX's. [18] It has nothing to do with enhanced extended loop.

[19] **Q:** But the enhanced extended loop, if you [20] will, is not predicated upon CLECs having switches [21] in each and every existing Bell Atlantic wire [22] center.

[23] **A:** [BROWN] No.

[24] **A:** [ALBERT] They don't even need to have

Page 205

[1] one in the state.

[2] **MR. LEVY:** Before you go on to the [3] next topic, Mr. Mandl: May I just make clear, on [4] the record request I made before about the rate [5] elements which would apply to extended-loop [6] service: As part of that, one of the things I'm [7] curious about is how you would plan on pricing the [8] transport portion of that. Do you view it as [9] dedicated, as shared? Do you require the CLEC in [10] essence to buy the full capacity of the transport [11] trunk for a given number of links coming in? Do [12] you understand the kinds of questions I'm asking?

[13] **WITNESS BROWN:** Yes.

[14] **MR. LEVY:** Is there a ratio of links [15] coming in to capacity of transport going out that [16] you would apply?

[17] **WITNESS BROWN:** It's one-per-one.

[18] **MR. LEVY:** One link, one transport?

[19] **WITNESS BROWN:** In other words, if [20] you could get a DS1, it had the capacity for 24 [21] links to put on; if you get a DS3, it's a [22] multiplying factor that's up to 600 or something.

[23] **MR. LEVY:** The question I'm asking, [24] let's say there are 24 links coming in

and a DS1

Page 206

could handle all of those coming out. Are you designing and pricing it as though all of those links are using the DS1 at the same time?

WITNESS BROWN: It's MUXed to the degree it's brought up so that it can be put on the piece of equipment. But you have 24 talk paths. There's no ratio — there's no switching or —

WITNESS ALBERT: No switching or concentration.

WITNESS BROWN: — or concentration.

WITNESS ALBERT: They're multiplexed together digitally, but it's still bandwidth for one output to match up to the bandwidth for one input. The CLEC can determine how much output they buy, but they've at least got to have enough output to handle the incoming input. They can buy more output than you need, but they don't have to. But you've got to at least have enough output to handle the incoming input.

MR. LEVY: Or else you get some blockage.

WITNESS ALBERT: Or it doesn't work. There's no blockage that occurs. It's the equivalent of each end user having their full pair

Page 207

of wires loop all the way from their telephone set to the CLEC's switch. It's the functional equivalent of what we're providing.

MR. LEVY: So it is like an FX or a private line.

WITNESS ALBERT: Yes.

WITNESS BROWN: Yes.

WITNESS ALBERT: It's the same way we lump our end users together to move them on interoffice transport.

MR. LEVY: And is that what you actually do with FX and private line now?

WITNESS ALBERT: Yes.

MR. LEVY: Why was I under the impression that there's more of a virtual private line or a virtual FX, where there actually is switching involved, so that you can achieve some efficiencies down the network on the transport part of the connection? Is that wrong?

WITNESS ALBERT: Do you know what we do?

WITNESS BROWN: I can't respond to that.

WITNESS ALBERT: There are ways

Page 208

technically to do that. I'm not aware if we do or if we don't in Massachusetts.

MR. LEVY: I'm going back ten years, where I thought the movement was from actual private line to virtual private line, where the idea was that you would not actually dedicate particular facilities.

WITNESS ALBERT: There are types of data-switching technology where that is the case. But for voice traffic and for foreign-exchanging types of arrangements, it's full-period input to output. When you get to data type of traffic, there are other types of multiplexing, other types of concentration and switching technology, that allow you to do crunching of bandwidth; but not for the voice-type calls.

MR. LEVY: Thank you.

Q: Mr. Albert, I think you testified earlier about trouble-report rate comparisons between unbundled-loop provisioning and retail services. Do you recall that?

A: [ALBERT] That's correct.

Q: I guess by definition there must be documentation that would indicate what those

Page 209

comparisons show?

A: [ALBERT] Yes. I've got stuff for January, February, and March.

Q: For Massachusetts?

A: [ALBERT] Yes.

MR. MANDL: I'd like to make a record request, to just take a look at those trouble reports, the comparisons.

A: [ALBERT] I've got the rate. It's expressed as a rate per 100.

MR. LEVY: That's No. 14.

(RECORD REQUEST.)

Q: In one of these serving arrangements proposed by Bell Atlantic — I think it was virtual collocation — there was some discussion about the need for tie cables. Do the tie cables relate solely to the virtual-collocation proposal?

A: [ALBERT] No. The tie cables also would be used for physical collocation. Tie cable is the cabling arrangement within our central offices to get from our main distributing frame to either a physical collocation cage or to get to an assembly room or to get to a piece of virtually collocated equipment.

Page 210

Q: Taking the virtual-collocation arrangement: Would there be a charge for the provisioning of these tie cables?

A: [ALBERT] I'm not sure of the rate structure. I mean, we don't do it for free, but I'm not sure of the rate structure of how that gets recovered. I think there's a rate element called a cross-connect or an SAC. But I'm not sure if that matches exactly one for one with just strictly the tie cable or if there are other components involved or not. But we don't do it for nothing.

Q: At this time has the company developed any rate proposals or rate levels for virtual collocation in Massachusetts?

A: [BROWN] Yes.

MR. LEVY: You have?

WITNESS BROWN: We are in the process of developing them.

A: [BROWN] Did I misunderstand your question? I'm sorry.

Q: I had asked had the company, and I guess you've indicated you are in the process.

A: [BROWN] We're in the process.

Q: They haven't been produced, though, as

Page 211

part of the company's comments?

A: [BROWN] No, but we hope that we will be filing them very shortly.

Q: In the company's discussions with CON-X, has it obtained any order of magnitude for installation of the CON-X equipment?

A: [ALBERT] Not that I'm familiar with.

Q: Has the company performed any analysis of the life-cycle costs of the CON-X equipment?

A: [ALBERT] Life-cycle costs? I don't know.

Q: Do you know what the annual costs would be for operating and maintaining that equipment?

A: [ALBERT] No, I don't.

Q: Do you know if the CON-X equipment is undergoing any further industry standards testing before any greater deployment?

A: [ALBERT] For the purposes of us deploying them in Bell Atlantic's network, they have passed all the tests that we would require. So some of the tests Mr. Kennedy talked about, the NEBS tests, which are a series of different tests for either deploying equipment in the central office, and then another series of tests for

Page 212

deploying the equipment in the

outside plant —[2] they have passed all those. Those are Bellcore [3] tests.

[4] They do a variety o' funky things, [5] like set it on fire and see what it does and blow [6] salt at it and try and explode it. There are a [7] whole number of items like that — simulate [8] earthquakes. It's passed all those, to the point [9] where it's okay to put in the CO and okay to use in [10] the network in the outside plant.

[11] **Q:** Does Bell Atlantic make any use of this [12] CON-X equipment other than virtual collocation?

[13] **A:** [ALBERT] Yes. The ones I'm worked [14] with — that's why I'm familiar with the [15] equipment. The ones that we've established in [16] Maryland that Mr. Kennedy was talking about, we've [17] used those in an outside-plant application. We've [18] also had ones that we've stress-tested in northern [19] Virginia. We are in final price negotiations with [20] CON-X for ones that we will buy and use for [21] purposes of our own network. That's not virtual [22] collocation, because we don't virtually collocate [23] ourselves. But we do deploy equipment for our own [24] use and own purposes, and we are going to be buying

Page 213

[1] some of CON-X's equipment.

[2] **Q:** Will it be a different model for your [3] outside-plant purposes than for virtual-collocation [4] purposes?

[5] **A:** [ALBERT] Yes, the two are slightly [6] different, the packaging and the tests that they [7] have passed. The basic unit itself, though, is the [8] same thing. The packaging is different, but the [9] unit's the same.

[10] **Q:** If we can turn to Page 15 of the [11] company's comments. This is in regard to the [12] assembly room.

[13] I am going to withdr w what I was [14] going to ask.

[15] **MR. MANDL:** That's it. Thank you.

[16] **MR. LEVY:** Ms. Thurston, any [17] questions?

[18] **MS. THURSTON:** No.

[19] **MR. LEVY:** Any redirect?

[20] **MR. BEAUSEJOUR:** No, Mr. Levy.

[21] **MR. LEVY:** Thank you very much for [22] coming.

[23] JAMES O. CARLSON, Previously Sworn [24] MS. THURSTON: I don't know what the

Page 214

[1] process should be. We didn't present any prefiled [2] testimony. We don't have a formal presentation. [3] Mr. Carlson is here primarily to answer any [4] questions that you may have of him or any of the [5] other parties. He does have a brief opening [6] statement he can give on our general policy.

[7] **MR. LEVY:** That would be great. And [8] if you could just give us your full name and your [9] current job, I'd appreciate that.

[10] **THE WITNESS:** Let me begin with [11] that. My name is James O. Carlson. I work for [12] Sprint Communications Company LLP. My address is [13] 8140 Ward Parkway, Kansas City, Missouri 64114.

[14] My title at Sprint is manager, [15] regulatory policy and coordination. Specifically [16] in that role I get involved with regulatory issues [17] that deal with Sprint's entry into the local- [18] telephone market. So that's kind of the niche that [19] I've gotten into.

[20] I'm going to share just a few [21] thoughts this afternoon, with the intent on keeping [22] it brief so I can get my son a Celtics hat at the [23] airport before I catch my plane.

[24] Let me make a few short statements

Page 215

[1] that relate to Sprint's concerns about the issues [2] before us. Let me begin by stating the obvious: [3] For telecommunications services to be provided, [4] network elements have to be combined. Given this, [5] if CLECs like Sprint want to use Bell Atlantic's [6] unbundled network elements, as we do, they have to [7] be combined. You just can't get around that.

[8] So the question here today is, who [9] does the combination? Now, Bell Atlantic and [10] Sprint disagree over whether the Department has [11] authority to order Bell Atlantic to combine network [12] elements for CLECs. I'm not a lawyer, so I'm not [13] going to make any legal arguments here. And since [14] Sprint's position is clearly outlined in its [15] petition filed with the Department on April 16th, [16] I'll only say that it's Sprint's position that the [17] Department does have the authority to adopt [18] Sprint's proconsumer proposal.

[19] So what I do want to talk about today [20] is what action the Department should take on the [21] topic of who does the combination. I think it [22] makes sense to first begin the discussion by [23] talking about the criteria that should be used in [24] answering the important question of who does the

Page 216

[1] combination or who needs to do the combination. As [2] I said, I live in Kansas City, Missouri. Currently [3] on the radio and television there's a public- [4] awareness campaign going on that's directed at [5] decisionmakers in the city. What the ads basically [6] say is that when decisions are made a question [7] should be asked. The point that's being made in [8] that ad campaign is that the question ought to be [9] asked, how would it affect the children?

[10] Borrowing from that theme, I'd like [11] to suggest a similar question ought to be asked by [12] the Department within this context: How would it [13] affect consumers in Massachusetts? Obviously, Bell [14] Atlantic and the CLECs are advancing dissimilar [15] positions. In my mind, obviously the challenge is [16] for the Department to weigh each party's argument [17] and make a determination based on how it affects [18] consumers in Massachusetts.

[19] Sprint's overall position in this [20] proceeding is that it's in the customers' interests [21] that Bell Atlantic be required to combine UNEs for [22] CLECs in the same manner as they combine network [23] elements for their own customers today, and that [24] CLECs should fully compensate Bell Atlantic for

Page 217

[1] that combination work at appropriately developed [2] cost-based rates. Under Sprint's proposal, [3] Massachusetts consumers' phone service would not be [4] disconnected, would not be put at risk due to new [5] multiple points of failure in the network, and the [6] costs of implementing local competition would be [7] kept at a minimum — costs which consumers could [8] eventually bear.

[9] So back to the original question: [10] How would Sprint's proposal affect consumers in [11] Massachusetts? The answer, at least in my opinion, [12] is that it protects phone service, it protects the [13] development of local-exchange competition, and it [14] minimizes consumer costs.

[15] Now let's look at Bell Atlantic's [16] proposal and ask the same questions: How would it [17] affect consumers in Massachusetts? First, under [18] Bell Atlantic's proposal, if a CLEC wants to buy an [19] unbundled loop and unbundled switching, unnecessary [20] telecommunications equipment would be inserted into [21] their network, requiring phone service to be [22] disconnected for a period of time, and putting [23] phone service at risk due to new multiple points of [24] failure in Bell Atlantic's network. This is not

Page 218

[1] good for consumers.

[2] Second, Bell Atlantic's proposal [3] creates the need for numerous manual steps to be [4] taken by Bell Atlantic and the CLECs to provision [5] service, steps which, if there is any [6] miscommunication, could lead to delay in the time [7] it takes for CLECs to provision services. This [8] delay will only frustrate

the CLEC's customers, [9] which could then cause them to go back to Bell [10] Atlantic. Bell Atlantic would not face this [11] potential obstacle, and therefore their proposal [12] creates a barrier to entry that will only frustrate [13] the development of local-exchange competition. [14] This is not good for consumers in Massachusetts.

[15] Finally, Bell Atlantic's proposal [16] creates a whole host of new costs which add no [17] value at all. New equipment must be added to the [18] network. Noncost-based glue charges. New manual [19] processes would have to be created. Assembly rooms [20] would have to be constructed. All these items [21] create costs which serve no benefit and add no [22] value to consumers in Massachusetts. Both Bell [23] Atlantic and the CLECs would incur these costs, and [24] those costs could potentially be passed on to

Page 219

[1] consumers in Massachusetts.

[2] In conclusion, I would like to [3] reiterate that Sprint recommends that the [4] Department require Bell Atlantic to combine network [5] elements for CLECs in the same manner as it does [6] for its own customers today. Sprint's proposal is [7] procompetition, pro-Massachusetts consumer, and [8] should be adopted. Thank you.

[9] EXAMINATION

[10] BY MR. LEVY:

[11] Q: Would you like to address the arbitrage [12] issue that Bell Atlantic has discussed, the idea [13] that if a CLEC has the option of, in essence, [14] purchasing the same service either on a resale [15] basis or a UNE-combination basis, it will obviously [16] pick the lower-priced way of doing that and that [17] that conflicts with the overall framework set forth [18] in the Act?

[19] A: I'd be glad to. You made an important [20] point in your question, and that is CLECs buying [21] the same service. When I think of arbitrage, [22] normally the way I think of it is in the access [23] world, where Sprint terminates long-distance [24] traffic to Bell Atlantic today, let's say in

Page 220

[1] Boston, and that traffic can come from another part [2] of the state or it can come from another part of [3] the country. But as it comes to Bell Atlantic, [4] it's a minute is a minute is a minute. But Bell [5] Atlantic's tariff could look different, most likely [6] does, whether it's intrastate minutes or interstate [7] minutes.

[8] IXC's, since Sprint has to report to [9] Bell Atlantic the percentage of interstate usage [10] that it has, and since that percentage drives [11] whether minutes are billed from their interstate [12] tariff or intrastate tariff, an arbitrage [13] opportunity exists there, where an IXC — Sprint [14] doesn't do it. I'm sure AT&T and MCI don't do [15] this. But an IXC could cheat on its PIU factors [16] and say, "Well, I've got more interstate minutes, [17] if I can get a better price on interstate." The [18] important distinction there, as you said in your [19] question, it's the same service, a minute's a [20] minute's a minute — and it's really just a pricing [21] difference.

[22] Where Sprint has a fundamental [23] difference with Bell Atlantic and why we say it's [24] not arbitrage, is that there are fundamental

Page 221

[1] differences between buying unbundled network [2] elements, even using the platform proposal, and [3] buying a wholesale service.

[4] Now, I would agree that the network [5] is the same. As has been laid out in the record so [6] far, the network needs to stay intact. The network [7] is the same, but when you buy UNEs and when you buy [8] a wholesale service, you're talking two different [9] things. I think it's totally consistent with the [10] Act that laid out two different ways of approaching [11] market entry that a CLEC will make a decision [12] whether to purchase UNEs, even using a platform, [13] and purchasing a resold service based on a lot of [14] different factors.

[15] For example, there are additional [16] risks in buying UNEs that you don't see when you [17] buy resold services. For example, in the retail [18] market the prevailing market structure or rate [19] structure for local service could be flat-rated; [20] but if a CLEC buys unbundled local switching from [21] the incumbent local-exchange carrier, they're going [22] to pay for it on a minute-by-minute basis. Well, [23] there's a risk that if their customer is a big [24] Internet user they could end up having a whole lot

Page 222

[1] of Internet minutes in the month, which are local [2] minutes, which means the CLEC could find that it's [3] paying more in UNE charges for local switching than [4] what it's getting in revenues. The point I'm [5] making is, because when you buy UNEs you're buying [6] based on how the costs are incurred and not based [7] on a discount, there's some additional risks.

[8] Now, there are other things, like if [9] you're buying UNEs you have to invest in being able [10] to bill and collect access services. You have to [11] have relationships with IXCs that you don't have to [12] have if you're buying resold services. You have to [13] deal with reciprocal compensation for terminating [14] traffic; that's an issue that you don't have to [15] deal with when you're simply buying a wholesale [16] service.

[17] My point in the wholesale discussion [18] is, I don't think there is an arbitrage situation [19] because I think fundamentally it's two different [20] ways of approaching it, whether you buy UNEs using [21] the combination or whether you buy a wholesale [22] service.

[23] MR. LEVY: Commissioner Vasington has [24] some questions.

Page 223

[1] EXAMINATION

[2] BY COMMISSIONER VASINGTON:

[3] Q: Is there anything short of the UNE [4] platform, any level of combination that's feasible [5] for Sprint to offer service?

[6] A: Well, I think the sticking point here is [7] the loop-and-switch combination. I want to make [8] sure I'm answering your question. That's the piece [9] that Sprint needs, and that's the piece that Bell [10] Atlantic is not offering. I mean, I think that [11] Bell Atlantic's switch subplatform addresses some [12] of the issues with being able to combine switching [13] and transport together. I disagree with their glue [14] charge that they're proposing to do that, because [15] that's not going to be cost-based. But that seems [16] to begin to address some of the issues.

[17] The real heart of the issue, though, [18] for Sprint is wanting to have that loop and that [19] switching combined and wanting Bell Atlantic to do [20] it, willing to pay for it — you know, whatever [21] costs are created, legitimate costs are created, [22] we'll pay for. But that's kind of the fundamental [23] issue, is being able to link loops and ports [24] together.

Page 224

[1] Q: Is Sprint using unbundled network [2] elements to provide local service anywhere right [3] now?

[4] A: Not to my knowledge. We're providing [5] local service in California. I believe we're only [6] doing that through resold services through [7] wholesale discounts.

[8] Q: Thank you.

[9] EXAMINATION

[10] BY MR. LEVY:

[11] Q: How about the extended-loop service that [12] Bell Atlantic is proposing? Is that helpful?

[13] A: I guess it is and it isn't. It's [14] somewhat helpful to be able to hook a loop to [15] transport together. The problem I have, again, is [16] the glue

charge that they're combining, which is [17] not going to be cost-based, which I think is [18] discriminatory. It begins to address the issue if [19] your entry strategy is to have a switch in the [20] state and you want to be able to transport loops [21] back to it.

[22] Now, I'm not sure I altogether [23] understand their proposal. When I read it, it [24] sounded like they were limiting it to voice-grade,

Page 225

[1] and my note said 2R analog and ISDN-capable loops. [2] I'm not sure how you would hand a DS1 or DS3 and if [3] you'd have to buy that in a different way. That [4] point is a little unclear to me.

[5] **Q:** It's a little off the topic; but in your [6] view, is the discount that Massachusetts has set [7] for resale service, is that sufficiently large to [8] permit CLECs to enter that market profitably?

[9] **A:** Well, I'll tell you that what we have [10] found in California, where we are offering service, [11] that the problems are much greater and the [12] opportunity for making a reasonable contribution is [13] much smaller. So we haven't found that it's been [14] particularly profitable out there.

[15] I'm not aware — Sprint is in the [16] process of doing some modeling in other states [17] where we have looked at providing service based on [18] just wholesaling services, buying a wholesale [19] service, and found that it is very much a struggle [20] to be profitable.

[21] I think what CLECs are finding is [22] that they need to — in order to have that [23] profitability, they need to be able to bill for [24] access; they need to be able to provide service

Page 226

[1] using unbundled network elements. But it becomes [2] problematic, though, when you introduce glue [3] charges and things like that that only add to the [4] cost of buying the service or buying the unbundled [5] network elements.

[6] **Q:** On the resale side of things, is the [7] prohibition against joint billing, joint [8] marketing — is that part of the problem?

[9] **A:** Well, no, that's not part of the [10] problem. That prohibition will exist until [11] February of next year or until the RBOC would get [12] into the long-distance business: No, that's not [13] the problem per se. The problem, what we have seen [14] is that even a discount of 20 percent does not [15] adequately make up for the market-entry costs and [16] the other costs, the customer churn and things like [17] that, that CLECs are experiencing.

[18] **MR. LEVY:** Any questions?

[19] **MR. BEAUSEJOUR:** Yes, I do, Mr. Levy, [20] just a couple.

[21] **CROSS-EXAMINATION**

[22] **BY MR. BEAUSEJOUR:**

[23] **Q:** Mr. Carlson, do you know what the resale [24] discount is in Massachusetts?

Page 227

[1] **A:** Not specifically. I'm going to guess [2] it's in the 20's, based on what I've heard today. [3] But I don't know specifically what it is.

[4] **Q:** Have you done any analysis about the [5] profitability of offering resold services in [6] Massachusetts based on the discount set by the [7] Department?

[8] **A:** I have not personally done that. We have [9] a group within Sprint who does that kind of [10] analysis. I'm not sure if they've done it for [11] Massachusetts.

[12] **Q:** Have you ever seen an analysis that [13] Sprint has done for Massachusetts?

[14] **A:** No.

[15] **Q:** Let us assume for the moment that the [16] Department does not order Bell Atlantic to combine [17] unbundled network elements for a CLEC. Does Sprint [18] have a proposal for how Sprint would obtain access [19] to the individual elements so that they can combine [20] them?

[21] **A:** Well, our position is that Bell Atlantic [22] should be required to combine them. With that [23] said, once an order is adopted and we've gone [24] through all the legal ins and outs to challenge it,

Page 228

[1] then we'll have to live with whatever is on the [2] table. But we're not offering anything short of a [3] UNE combination.

[4] **Q:** So you're making no proposal to the [5] Department in the event that the Department does [6] not order Bell Atlantic to provide UNE [7] combinations.

[8] **A:** No.

[9] **MR. BEAUSEJOUR:** I have no further [10] questions, Mr. Levy.

[11] **MR. LEVY:** Anyone else? Ms. [12] Thurston, any redirect?

[13] **MS. THURSTON:** No.

[14] **MR. LEVY:** Thank you very much for [15] coming. I appreciate your patience through all the [16] long day.

[17] Our plan is to adjourn for today and [18] reconvene on May 15th with the witnesses from MCI [19] and AT&T at that time. So we'll stand adjourned.

[20] I would, however, like to talk to the [21] parties briefly after the close of the record.

[22] (4:45 p.m.)

Page 229

CERTIFICATE

I, Alan H. Brock, Registered Professional Reporter, do hereby certify that t[illegible] foregoing transcript is a true and accurate transcription of my stenographic notes taken on May 1, 1998.

Alan H. Brock
Registered Professional Reporter

Lawyer's Notes

$

$1.60 48:24; 49:14
$10 44:16
$100 million 180:15
$14 43:11
$15 42:13
$19 43:6
$20 43:23
$20,000 67:9; 148:5, 9
$200,000 132:4
$33,000 128:19
$35 42:9
$5 42:14; 43:10
$7 44:16
$80 42:11
$9 43:5, 9, 10

1

1 4:1; 50:18; 51:20; 55:2; 90:19; 95:13; 112:13
1,400 155:18
1,400-circuit 128:9
10 34:20; 54:21; 77:8, 15; 78:3; 91:8; 102:6; 105:6, 8; 107:11; 121:23; 123:4; 126:6; 184:23
10,000 161:23
100 29:12; 49:8; 157:12; 164:12; 209:10
100,000 148:21; 155:9, 17; 157:14, 15; 158:4, 5, 21; 159:9, 11
100-million--dollar 181:23
100-pair 156:19
100-square-foot 156:2, 7
1050 64:2, 3, 16
10:11 4:1
10th 5:3
11 63:9; 123:5; 126:7; 191:23
12 192:16
13 194:2
13th 4:9
14 209:11
14,000 132:1; 133:24
1400 130:2, 10; 131:20; 133:1, 4, 5, 8, 9, 10
1400-circuit 129:21; 130:8
15 49:17, 23; 134:11; 189:8; 213:10
15th 228:18
16th 5:23; 13:2; 114:22; 215:15
17th 5:9; 6:2; 7:20; 11:17
18 20:3
1997 13:2; 114:22; 118:11; 119:11
1998 4:1, 9; 91:19, 23; 94:14, 17, 20, 23
1999 16:12
19th 4:24
1AESS 140:5

2

2 5:22; 6:1, 4; 51:20; 54:21; 60:16; 71:12; 76:17, 19; 90:19; 92:16; 95:13; 121:24; 189:9
2,500 31:8
20 19:16, 19; 64:17; 114:1; 226:14
20's 227:2
20,000 131:18, 20; 148:7
20-something 41:23
20th 32:23
23 155:23
23-inch 128:17; 134:6
23-inch-wide 155:22
24 128:14; 205:20, 24; 206:6
25 17:8; 45:8; 130:16; 131:5; 161:21
25-square-foot 142:8
250-connection 128:6
251 9:1; 12:10
251(c)(3 9:22
267 203:19
270 49:5
271 9:3; 11:18; 12:1, 10; 52:1, 12; 71:23; 72:5; 73:5, 20; 75:14, 22; 83:10; 85:6, 20; 86:24; 87:4, 7, 18; 88:4, 16; 89:11; 93:5, 12, 17; 111:16; 112:2; 113:7, 15; 114:7
29th 5:1
2ISX 16:9
2R 225:1

3

3 51:21; 61:23; 74:5; 76:12, 14, 16, 20, 21, 24; 77:8; 102:7
30 29:9; 114:1
36 128:13
3A 76:23

4

4 9:22; 38:5; 71:14; 74:5; 83:6; 87:11; 92:15
40 114:1; 183:19; 184:6, 19
40,000 34:5
4:45 228:22

5

5 45:6, 9; 48:22; 49:10, 14; 89:6, 16; 133:15, 16, 16; 146:17
50 155:23; 183:12, 13; 184:19
50,000 155:10
555 196:22, 23

6

6 94:5
6,000 155:10
600 183:10; 205:22
64114 214:13

7

7 45:2, 7; 100:18
70 29:12; 49:19

8

8 119:16
8140 214:13
89 49:23

9

9 78:3; 89:24; 91:16; 94:8, 12; 95:11; 98:5; 102:6; 117:11; 126:3, 4, 5; 149:10; 150:23
900 171:12
90s 152:3
911 8:7; 15:21; 118:8; 121:2
911's 25:21
96-98 27:18
9th 5:3; 117:6, 16

A

a.m 4:1
ability 81:19; 154:6; 187:14; 203:10; 204:3
able 22:14; 46:9; 54:4; 60:7; 88:8; 132:23; 144:18; 162:16; 175:2; 178:14; 181:1; 183:22; 184:1, 10; 188:1; 222:9; 223:12, 23; 224:14, 20; 225:23, 24
above 41:1; 131:5; 134:10
absent 74:5
absolutely 70:17
accept 160:7; 173:13, 18, 20, 21
accepted 12:13
access 7:19; 8:5, 6, 7, 7, 8; 9:20, 23; 13:12; 14:1; 22:19; 23:17, 18; 24:9, 14; 25:9, 9, 11; 31:21; 58:4, 19; 65:16; 81:16; 146:23; 151:4, 14, 24; 152:1; 155:17; 159:10; 178:2, 15; 179:4; 181:1; 182:9; 187:16, 18; 189:3; 219:22; 222:10; 225:24; 227:18
access/escorted 25:11
accessed 22:17; 144:12
accessible 172:15
accessing 144:8
accommodate 32:20; 33:4; 59:2; 161:23; 162:8, 10
accomplish 175:2; 184:7
account-management 104:16
accountability 25:15; 26:4; 58:6
accounting 148:2
accounts 147:23
accuracy 80:15, 18; 100:13
accurate 70:6; 74:6; 79:4; 88:23; 90:11; 103:22; 104:11; 105:14; 106:14; 113:7; 115:16; 131:7; 141:10; 147:16; 152:5, 19; 153:11; 169:20; 172:10; 173:22; 178:4; 180:10
achievable 177:18, 22
achieve 71:22; 83:10; 180:22; 207:17
achieved 73:3
acquires 147:23
acquisition 9:19
acronym 122:5, 6; 178:21
across 29:8; 139:10; 199:9
Act 7:24; 9:2, 2, 12; 10:4; 13:7, 18; 14:8; 20:2; 39:2, 19, 20; 68:24; 75:11, 21; 82:1; 174:16; 219:18; 221:10
acted 99:15
action 100:8, 14; 215:20
activates 170:2, 6
activating 21:19; 22:2
actively 16:7
activities 139:11; 178:13
activity 182:22
actual 30:18; 31:6; 139:4, 15, 16, 17; 192:14; 201:21; 208:4
actually 19:15; 24:8; 25:23; 30:1; 31:3; 32:14; 33:20; 34:5; 63:8; 64:24; 88:21; 91:6; 112:4; 114:24; 117:1; 129:17; 133:5; 137:19; 140:11; 169:18; 170:11; 181:5; 183:7; 184:7; 187:17, 18; 191:15; 207:12, 16; 208:6
ad 216:8
add 88:14; 96:5; 97:1, 13; 110:6; 152:15; 218:16, 21; 226:3
added 32:15; 108:7; 218:17
addition 8:10; 10:3; 12:18; 16:7; 23:6; 25:10; 55:10; 81:13; 160:2; 161:8
additional 15:16; 17:2; 18:22; 23:4; 28:14, 15; 33:5; 38:8; 54:16; 55:3, 4, 7; 59:2; 103:1; 104:19; 105:20; 193:5; 221:15; 222:7
address 20:12; 28:11; 30:13; 38:12; 109:3; 126:18; 159:9; 214:12; 219:11; 223:16; 224:18
addressed 22:22; 23:3; 71:19; 92:17; 93:14; 113:18; 150:7
addresses 105:15; 152:18; 223:11
adequately 226:15
adjourn 228:17
adjourned 228:19
administration 23:5; 170:21
administrative 164:16
adopt 215:17
adopted 219:8; 227:23
ads 216:5
advance 34:16
advanced 166:19
advancing 216:14
advantage 10:22; 18:9; 40:20
advantages 10:11
affect 216:9, 13; 217:10, 17
affected 32:18
affects 216:17
afternoon 35:22; 214:21
Again 15:12; 23:12; 37:5; 83:23; 90:8; 108:23; 116:2; 141:14; 147:6; 149:9; 156:12; 164:9; 173:23; 175:4, 18; 188:20; 224:15
against 226:7
aggregate 14:12
ago 29:23
agree 72:7; 77:10; 147:15; 199:15, 18; 202:7; 221:4
agreeable 68:5
agreed 4:12; 11:20; 52:10, 12, 17, 19, 23; 83:13; 99:8; 122:24
agreement 11:22, 23; 12:3, 8; 21:22; 51:3; 52:22;

53:1; 60:3, 4; 70:21; 73:12; 74:2; 75:5; 78:17; 79:3; 82:18, 19; 83:14, 20; 91:4; 93:18; 98:20; 113:22; 114:4; 120:14, 16, 17; 145:15
agreements 51:14; 198:11
ahead 42:22; 136:4; 148:15; 170:14
air 190:13
airport 214:23
Albert 5:14; 6:10, 16, 16; 7:6, 7; 11:9; 19:6, 10, 11; 24:2, 9, 22, 24; 25:6, 8; 37:21; 55:22; 56:1, 13; 57:1, 5, 19, 22; 58:3, 13, 16; 59:13, 16; 64:18, 23, 24; 121:9, 18, 22; 123:14; 124:10, 13, 22; 125:3, 7; 127:1, 3, 6, 19; 129:14; 132:17; 135:1, 3, 11, 21; 136:2, 12, 23; 137:5, 13, 15, 21; 138:1, 12, 15; 139:2; 140:3, 14, 19; 141:7, 11, 18, 19; 142:6, 14, 24; 145:10, 11, 17, 21; 146:5, 17; 147:3, 10, 20; 148:1, 6, 10, 20; 149:1, 5, 9, 11, 16; 150:1, 4, 14; 151:2, 9, 13, 24; 152:10; 153:3, 7, 11, 15, 24; 154:8, 11, 20, 24; 155:5, 8, 16, 21; 156:3, 6, 17; 157:5, 10, 18, 22; 158:7, 13, 16; 159:7; 160:4; 161:2, 9, 14, 19; 162:1, 12, 23; 163:4, 10, 13, 19; 164:23; 165:15, 23; 166:8; 167:14, 18; 168:7, 10, 18; 169:6, 15, 21; 170:16, 19, 23; 171:3; 172:1, 11, 16, 23; 173:3, 17, 23; 174:6, 10, 20; 175:3, 9, 14, 22; 176:3, 9, 15, 19; 177:5, 8, 14, 20, 24; 178:6, 18; 179:7; 180:2, 11, 19; 181:5; 182:4, 15; 183:3; 184:12, 15, 21; 185:7, 9, 19, 22; 186:14; 187:10, 13, 23; 188:18; 189:17; 193:2, 14; 194:12; 195:6, 9, 12, 23; 198:18; 199:17; 201:16; 203:17; 204:24; 206:8, 11, 22; 207:6, 8, 13, 20, 24; 208:8, 18, 22; 209:2, 5, 9, 18; 210:4; 211:7, 10, 14, 18; 212:13; 213:5
allegations 15:9
allocated 48:21
allow 14:16; 21:13; 35:19; 48:1; 160:23; 188:23; 208:15
allowed 54:8
allows 187:21
almost 44:15
along 5:6; 123:1
already-combined 9:19
alternative 18:12; 21:10; 23:15; 26:22; 27:2; 50:8; 141:12; 198:19, 23
alternatives 12:19; 13:5; 16:22; 20:14, 15, 19; 31:20; 140:16; 161:21; 165:24; 169:10
although 7:23; 107:3; 143:2
altogether 224:22
always 166:21; 185:9
amenable 67:16, 18
amendments 79:2, 5
American 135:3
among 72:13; 81:20; 83:15
amount 44:24; 59:7; 179:14; 183:23
amounts 96:16, 23
Amy 5:14; 6:9, 14, 24; 12:24; 53:8; 127:18; 150:7; 193:21
analog 8:11, 14; 130:15, 18, 21; 140:5; 161:23; 162:19; 225:1
analogous 165:20
analysis 190:24; 191:10; 211:8; 227:4, 10, 12
ancillary 18:18
and/or 85:2
angles 84:19
Annette 13:3
annual 211:12
answered 191:21
anticipation 180:8
anyplace 20:4
apart 169:19
apartment 28:24
apologize 78:14
Appeals 9:17
appear 5:16; 19:15; 124:5; 174:24; 186:9
appearing 189:22
appears 73:8, 9; 146:19; 148:11, 12, 12
appendices 114:2
Appendix 112:13
application 12:2; 52:1, 2, 13; 63:4; 64:1; 71:24; 72:6; 73:5, 20; 75:14, 22; 83:11; 85:5; 86:24; 87:4, 7; 88:16; 93:17; 111:17; 112:2; 113:7, 15; 114:7; 129:18, 19; 130:3; 142:24; 143:3; 212:17
applications 63:23
applied 200:12
apply 200:12; 205:5, 16
applying 45:12
appreciate 214:9; 228:15
approach 27:16; 67:15; 68:2; 147:7
approaching 221:10; 222:20
appropriate 4:14; 68:1; 85:8; 93:13; 202:20
appropriately 217:1
approval 71:23; 83:10; 89:13
approved 79:7, 9; 95:12; 106:8; 137:9, 10; 138:21
approves 95:7; 106:13
April 5:9; 6:1; 7:20; 11:17; 215:15
aptly 65:3
arbitrage 9:15, 17; 39:11, 23; 40:5, 7; 41:18; 42:2; 47:16, 24; 48:8, 11; 60:22; 61:20; 108:20; 109:7, 8, 17; 110:4, 11; 219:11, 21; 220:12, 24; 222:18
arbitration 7:17; 51:17; 84:6; 85:13, 14; 93:4; 109:4, 6
arbitrations 4:4; 20:8; 51:23
area 44:18; 45:14, 19, 20; 63:24; 92:4; 129:13; 171:10; 189:18; 190:9; 196:18; 200:18; 203:11
area-code 200:4, 13, 24; 202:2, 22
areas 50:6; 200:8
arena 130:24
argument 216:16
arguments 215:13
arithmetic 131:20
around 29:17; 30:4; 45:2; 117:2; 134:9; 152:2; 155:9; 179:4; 181:3; 215:7
arrange 35:24
arrangement 20:22; 22:16; 26:13, 21, 23; 27:13, 19; 54:13, 14, 17; 56:6; 57:2, 8, 13; 58:9, 10, 24; 75:19; 108:18; 110:14; 111:19; 115:8; 118:4; 133:22; 134:24; 135:6, 9, 24; 146:20; 160:14, 19; 164:21; 165:12; 195:1; 197:24; 199:12; 209:20; 210:2
arrangements 13:10; 20:6; 22:16; 31:11, 18; 34:8; 76:6; 92:6; 93:8; 137:1; 163:21; 164:8, 12, 16; 165:16; 183:16; 189:24; 201:23; 208:11; 209:13
arrangments 11:19
arrived 96:23
article 89:4
artificial 10:10
aside 62:11; 161:4
aspect 26:13; 28:12; 32:12; 33:15
assemble 12:16; 15:13
assembly 8:22; 18:17; 26:17; 32:4; 50:5; 58:8, 23; 163:14, 22; 164:4, 14, 19; 165:20; 187:21; 189:10, 15, 20, 22; 209:22; 213:12; 218:19
assembly-room 18:11; 26:12; 165:12; 187:20; 189:8
assertion 80:15
assign 203:10
assigned 194:23; 196:16, 23; 197:14, 15, 18; 198:14; 200:15; 203:7, 7
assigning 201:8, 9
assignment 185:13
assigns 201:2
assist 53:16
assistance 15:21
associated 17:11; 97:7; 103:15; 133:15, 16; 171:18; 196:17; 197:6; 202:13, 24; 203:14, 15
assume 94:7, 19; 158:18; 167:6, 16; 227:15
assumed 185:16; 198:8
assuming 103:11; 108:19; 112:11
assumption 106:9
assurance 72:22
AT&T 4:5; 11:17; 21:10, 22; 30:8; 31:16; 50:24; 76:11, 15, 24; 77:8; 159:17, 17, 22; 161:3; 220:14; 228:19
AT&T-3 89:18
Atlantic 4:4, 21, 24; 5:1, 2, 7, 9, 21, 21; 6:1, 4, 23; 7:15; 8:15; 14:17; 15:7, 15, 18; 16:21; 18:2, 11, 17, 23; 19:20; 23:22, 23; 24:20; 25:4, 5, 14; 26:4; 27:3, 9; 28:3; 33:9, 21; 34:6; 36:9; 41:24; 46:7; 54:21; 55:24; 65:7, 10, 19; 66:18; 67:4; 68:21; 69:21, 23; 70:5, 24; 71:10, 11, 18; 72:5, 7, 22; 73:3, 14, 20; 74:2, 11; 75:15, 23; 76:2, 10; 77:11, 17, 23; 78:18; 79:6; 80:7, 9, 12, 16, 24; 81:2, 13, 21; 82:21; 84:21; 85:21; 86:1; 87:1, 3, 14; 88:15; 89:23; 91:9; 92:6, 14, 24; 95:19, 22; 97:24; 98:16; 99:9; 100:6, 12, 21; 103:6, 13, 19; 104:10, 15, 17; 105:3, 12, 18; 106:3, 12, 18; 107:16; 108:12, 19; 109:14; 110:15, 19; 111:8, 11, 19; 112:6, 9, 12, 14, 17; 113:4, 11, 24; 114:5; 116:14, 17, 23; 117:1, 12, 13; 118:11, 15, 19, 22; 119:9; 121:7, 7, 23; 122:23, 24; 123:17, 22; 124:23; 125:4, 10; 126:23; 128:1, 8; 129:6, 15; 132:10; 134:15, 19, 21, 22; 135:4, 8, 10, 15; 136:9, 14; 137:2, 8, 16, 19, 23; 138:6, 8, 10, 13, 20, 21, 23, 24; 139:9, 21, 21; 140:2, 13, 15, 19; 141:17; 143:6, 12, 14; 145:13, 16; 146:18, 22; 147:7, 9, 17, 22; 151:6; 152:6, 20; 154:9, 12, 16; 155:12; 156:10, 13, 24; 157:14, 21; 158:20, 21; 159:2, 16, 20; 160:9; 161:4; 162:24; 163:8, 17, 24; 165:3; 166:2, 5, 15; 167:1, 4, 8, 9, 13, 21, 24, 24; 168:8, 11, 14, 16, 21; 169:1, 6; 172:21; 176:23; 177:2; 178:1; 180:6, 13; 181:21; 183:1; 184:13, 18; 185:4, 16; 186:13, 16, 18; 187:2, 8; 192:5, 13; 195:5, 11, 12; 198:22; 200:9, 20; 201:11; 202:17; 204:21; 209:14; 212:11; 215:9, 11; 216:14, 21, 24; 218:4, 10, 10, 23; 219:4, 12, 24; 220:3, 9, 23; 223:10, 19; 224:12; 227:16, 21; 228:6
Atlantic's 15:4, 23; 16:19; 24:11, 13, 13; 25:18, 19; 58:12, 13, 20; 61:20; 68:12; 89:9; 93:16; 102:8; 104:21; 109:16; 111:16; 112:19; 113:2; 115:22; 116:5; 132:14, 17; 134:16, 22; 136:13; 138:16, 24; 140:10; 165:17, 18; 166:1; 169:2; 171:1; 195:9; 199:4; 211:19; 215:5; 217:15, 18, 24; 218:2, 15; 220:5; 223:11
Atlantic-approved 137:11
Atlantic/NYNEX 119:24
attach 176:7
attached 11:17; 51:1; 175:1, 16
attempt 167:15
attempted 116:11
attempting 181:23
attention 77:7
attractive 190:7
August 91:18; 94:9, 14, 17, 20, 23
authority 105:19; 215:11, 17
authorization 87:18; 88:4; 89:11
authorized 72:10
automated 62:23; 166:14
availability 91:17
available 5:12; 9:4; 16:1; 36:11, 23; 53:21; 62:21; 63:1; 76:3; 78:7, 9, 10, 11; 79:14; 81:6; 92:7; 95:1, 4; 102:17; 118:14, 17, 19, 20; 172:9, 14
Avenue 159:16
avenues 51:23
average 34:18; 42:7, 9, 10, 13, 15, 16; 43:17, 20;

45:1, 8, 22; 46:3; 155:10
avoid 10:10
avoided-cost 40:15
aware 73:11; 74:18, 19; 104:4; 112:16, 21; 114:8; 124:19, 22, 24; 125:8; 141:12; 153:1; 204:5; 208:1; 225:15
awareness 216:4
away 64:8

B

B 195:20; 196:15; 199:6; 202:19
BA 13:5, 18; 14:8, 10, 15; 54:21; 60:23; 92:16; 121:24; 189:9; 192:4
BA's 13:10, 17; 14:7, 23; 15:1, 10
BA-Mass 8:8; 10:16, 22; 12:17
BA-Mass.'s 9:11; 10:14; 12:12
BA-Massachusetts's 13:8
back 4:12, 13; 14:14; 49:23; 56:17; 59:24; 65:5; 74:8; 81:11; 82:6; 83:5; 89:18; 93:22; 105:6; 110:12; 114:18; 127:15, 16; 134:12; 145:8; 148:19, 20, 21; 156:12, 16; 157:14, 17; 158:5; 159:21; 161:1; 162:17, 21; 165:11; 170:9; 186:5; 194:24; 197:21; 199:23; 201:13; 208:3; 217:9; 218:9; 224:21
background 20:11
backup 190:24
bad 90:13
bag 156:8
balance 12:3
ballparking 43:6
Baltimore 201:20
band 121:10
bandwidth 206:12, 13; 208:15
Barbulescu 122:16, 19, 21; 126:16; 127:7; 143:22, 24; 144:3; 190:16, 18, 22
Barbulescu's 191:18
barrier 218:12
base 31:7
Based 4:13; 47:6; 216:17; 221:13; 222:6, 6; 225:17; 227:2, 6
baseline 43:23
bases 55:2
basic 35:9; 42:10; 162:3; 197:16; 213:7
basically 19:12; 21:18; 28:16; 31:20, 23; 33:6; 34:7, 13; 36:1; 40:17; 47:10; 53:22; 60:12; 120:18; 164:6, 15; 175:7; 216:5
basics 194:24
basis 39:4; 42:12; 45:2, 4, 10; 46:2, 17; 49:11; 54:23; 67:8; 80:14; 82:24; 97:3, 16; 98:12; 117:15; 129:5; 156:12; 166:6; 168:4, 15, 20; 169:4; 182:4; 185:5, 21; 202:4; 219:15, 15; 221:22
battery 66:7, 7, 14; 189:12; 190:3
battleship 164:11
bay 18:18; 66:14
BDFB 66:14, 18
bear 183:5; 217:8
Beausejour 5:7, 8; 6:3, 6; 7:10; 12:22; 19:6; 36:8, 21; 37:1; 69:3; 74:7; 83:2; 88:5; 92:3, 13; 93:2; 96:9; 99:24; 119:1, 5; 126:14, 17; 145:3, 5; 213:20; 226:19, 22; 228:9
become 76:23; 103:1, 3
becomes 47:6; 226:1
began 26:11
begin 91:14; 110:24; 214:10; 215:2, 22; 223:16
beginning 24:5; 91:24; 115:6; 124:16; 149:10; 191:6
begins 19:7; 224:18
begun 54:6
behalf 13:4; 24:17
behind 15:5, 16; 47:8; 48:5; 50:15; 60:10
believes 8:23; 10:4
Bell 4:4, 20, 24, 24; 5:2, 7, 9, 20, 21; 6:1, 4, 22; 7:15; 8:15; 14:17; 15:4, 7, 15, 18, 23; 16:19, 21; 18:2, 11, 16, 23; 19:20; 23:22, 23; 24:11, 13, 13, 19; 25:3 4, 14, 18, 18; 26:4; 27:2, 9; 28:3; 33:9, 21; 34:6; 36:9; 41:24; 46:7; 54:21; 55:24; 58:11, 13, 20; 61:19; 63:5; 65:7, 10, 19; 66:17; 67:4; 68:12, 21; 69:21, 23; 70:5, 24; 71:10, 11, 18; 72:5, 6, 22; 73:3, 14, 20; 74:2, 10; 75:14, 23; 76:2, 10; 77:10, 17, 23; 78:18; 79:6; 80:7, 9, 11, 16, 24; 81:2, 13, 21; 82:21; 84:21; 85:21; 86:1; 87:1, 3, 14; 88:14; 89:8, 22; 91:9; 92:6, 14, 24; 93:16; 95:19, 21; 97:23; 98:16; 99:9; 100:5, 12, 21; 102:8; 103:6, 13, 19; 104:10, 15, 17, 21; 105:3, 12, 18; 106:3, 12, 17; 107:15; 108:12, 18; 109:14, 16; 110:15, 19; 111:8, 11, 16, 19; 112:6, 9, 11, 14, 16, 19; 113:2, 4, 11, 24; 114:5; 115:22; 116:5, 14, 17, 23; 117:1, 12, 13; 118:11, 14, 19, 22; 119:9, 24; 121:7, 7, 23; 122:23, 24; 123:17, 21; 124:22; 125:4, 10; 126:23; 128:1, 8; 129:6, 15; 132:10, 14, 17; 134:15, 16, 19, 20, 22, 22; 135:4, 8, 10, 15; 136:8, 13, 14; 137:2, 8, 11, 15, 19, 23; 138:5, 8, 10, 13, 16, 20, 21, 23, 24; 139:9, 21, 21; 140:1, 10, 13, 15, 19; 141:17; 143:6, 12, 14; 145:13, 16; 146:17, 22; 147:7, 9, 17, 22; 151:6; 152:6, 20; 154:9, 12, 16; 155:12; 156:10, 13, 24; 157:13, 21; 158:20, 21; 159:2, 16, 19; 160:9; 161:4; 162:24; 163:8, 16, 24; 165:2, 17, 18, 24; 166:2, 5, 15; 167:1, 4, 8, 9, 13, 21, 24, 24; 168:8, 11, 13, 16, 21, 24; 169:2, 6; 171:1; 172:21; 176:23; 177:2; 178:1; 180:6, 13; 181:21; 183:1; 184:13, 18; 185:4, 16; 186:12, 16, 18; 187:2, 8; 192:5, 13; 195:5, 9, 11, 12; 198:22; 199:4; 200:9, 20; 201:11; 202:17; 204:21; 209:14; 211:19; 212:11; 215:5, 9, 11; 216:13, 21, 24; 217:15, 18, 24; 218:2, 4, 9, 10, 15, 22; 219:4, 12, 24; 220:3, 4, 9, 23; 223:9, 11, 19; 224:12; 227:16, 21; 228:6
Bellcore 63:12, 15; 124:15; 178:22; 212:2
below 112:13
Bench 36:24; 186:2
benefit 218:21
besides 59:4; 148:8
best 30:16; 51:6; 52:24; 75:4; 150:7; 151:22; 198:5
better 21:5; 24:7; 58:24; 189:1; 220:17
beyond 13:6, 17; 14:8; 44:18; 45:14; 71:1, 7; 76:1; 82:16; 85:17; 92:4; 111:22; 112:18; 118:6, 8; 149:7; 166:7
big 50:6; 128:11; 129:23; 137:21; 140:20; 155:9; 156:4; 179:20; 180:5; 221:23
bigger 128:20; 133:5
biggest 155:8
bill 222:10; 225:23
billed 220:11
billing 23:11; 46:9; 103:17; 171:15; 181:10; 198:3; 226:7
billing's 198:6
bit 24:7; 51:2; 59:11; 62:19; 80:10; 83:4; 89:20; 110:13; 160:5; 163:21
Blacksburg 19:18
block 162:5, 5; 164:9
blockage 206:21, 23
blocking 171:11
blocks 26:7, 7; 58:20; 59:9; 162:3; 165:1; 190:5, 10
blow 212:5
blunt 48:18
books 148:4, 7, 11, 13
Borrowing 216:10
Boston 43:9, 22; 44:14; 88:20, 22; 131:16; 154:17; 220:1
both 27:11; 49:11; 55:8; 91:16; 94:19, 20; 109:20; 163:11; 191:21; 218:22
bottom 33:8; 123:4
bought 64:24
bounds 85:18
boy 184:9
break 59:22; 114:12; 185:23
BRI 78:10; 90:4; 91:17; 96:19; 101:3, 8; 162:20
brief 5:19; 19:8, 23; 214:5, 22
briefly 20:10; 33:20; 88:18; 114:16; 228:21
bring 14:14; 201:6
bringing 198:16
broad 139:3; 151:17
broader 93:10; 126:20
Brooks 4:5
brought 36:15; 203:6; 206:5
Brown 5:14; 6:9, 13, 13, 21, 22; 7:11, 13, 14; 37:11, 20; 38:16, 21; 40:8; 41:2, 4, 21; 42:4, 17, 19, 23; 43:3, 15; 44:12; 45:14, 21; 46:22; 47:13; 48:4, 14; 49:5, 17; 50:22; 51:6; 52:19, 23; 53:8; 60:2, 6, 9, 14; 61:1, 7, 22; 62:4, 14; 65:5; 66:17; 67:12, 17; 68:4, 11, 15; 69:5, 11, 16; 70:1, 8, 12, 19; 71:5, 15, 24; 72:1, 9; 73:1, 7, 16, 22; 74:14; 75:9, 16; 76:1, 5; 77:9, 14; 82:8, 16; 83:19; 85:4, 23; 86:10, 23; 87:2, 8, 19; 88:1, 10, 18, 24; 89:3, 19; 90:12, 15; 96:5, 10, 13, 21; 97:1, 14, 15, 19; 98:14, 18; 99:5, 12, 20; 101:1, 14, 23; 102:2; 108:17, 22; 109:8, 11, 13, 18; 110:24; 111:3, 20; 112:21; 113:1, 9, 16; 114:8; 127:18; 142:19, 21; 145:9, 18; 146:1, 7, 12; 150:6; 151:18; 152:15; 153:1; 154:19; 190:19, 23; 191:2, 11, 14, 20; 192:7, 10; 193:8, 18; 194:10, 22; 195:7, 19; 196:12; 197:5, 12; 198:5; 199:15, 18; 200:1, 5, 23; 202:6, 8; 203:4, 15, 18; 204:5, 15, 23; 205:13, 17, 19; 206:4, 10; 207:7, 22; 210:15, 17, 19, 23; 211:2
brushing 35:10
Bryan 5:14; 6:10, 15; 7:3
buck 148:4; 159:20
bucks 180:5
build 124:17
building 28:24; 29:2; 32:22; 188:11
builds 121:4
built 160:22
bunch 157:6
bundling 81:24
bus 90:17
business 34:22; 35:18; 36:4; 78:12; 90:7, 10, 22; 115:18; 226:12
businesses 183:21
buy 17:2; 57:9; 80:23; 136:1; 140:3; 153:17; 159:1, 19; 160:9; 188:5, 5; 205:10; 206:15, 16; 212:20; 217:18; 221:7, 7, 17; 222:5, 20, 21; 225:3
buying 57:12; 64:20, 22; 212:24; 219:20; 221:1, 3, 16; 222:5, 9, 12, 15; 225:18; 226:4, 4
buys 18:1; 159:16; 221:20
by-customer 43:4

C

C 170:22; 197:12, 20; 199:7; 203:13, 14
C&P 19:19
cable 15:5; 144:11; 157:6; 162:13, 14; 189:13; 209:19; 210:10
cables 32:13, 18; 33:2, 5; 156:19, 23; 157:11, 22; 165:20, 21; 186:16, 21; 187:3, 14, 16; 190:5; 209:16, 16, 18; 210:3
cabling 163:20; 164:8, 12; 209:20
cage 18:14; 50:4, 7; 66:24; 132:13; 142:18; 156:2, 7; 163:8, 9, 12; 165:22; 189:16, 17; 198:16; 201:7, 14; 209:22
cageless 58:9
cages 8:22; 26:19; 50:10; 143:4; 182:23
calculate 46:2; 55:15
calculating 61:5
calculation 49:7; 50:15; 60:12; 66:23
calculations 60:10

California 224:5; 225:10
call 5:24; 9:2; 29:7, 8, 9, 10, 11; 42:14; 55:11; 61:11; 66:3, 15; 76:15, 21; 120:19, 19, 22, 22; 122:10; 130:8; 131:6; 164:24; 184:22; 195:14, 19, 21; 196:4, 5, 11, 13, 20; 197:1, 3, 7, 8, 19; 198:1, 2, 4, 8; 199:5, 10, 11, 16, 22; 200:5, 10, 21; 202:16
call-forwarding 44:20
call-waiting 44:20; 171:7; 178:10
called 51:20; 79:16; 118:23; 119:10; 129:24; 162:5; 178:21; 199:9; 210:7
calling 44:18; 45:13, 19, 20; 120:8; 130:2; 171:8, 8, 9, 10; 178:10; 200:8; 202:15, 17
calls 29:13; 43:12; 69:4; 120:19; 136:16; 194:18, 21; 200:16, 19; 201:24; 202:4, 5, 13, 18; 203:1, 2, 2, 7; 204:13; 208:16
came 111:19; 114:3
campaign 216:4, 8
can 10:15; 14:12; 17:23; 21:8; 22:17; 30:16; 40:4, 20; 41:14; 45:4; 48:6, 6; 50:12; 51:7; 53:5; 56:13; 59:11; 62:11; 63:24; 64:9; 74:2; 77:10; 78:2; 80:23; 82:12, 16; 83:19; 86:8; 87:13, 21; 88:18; 92:7; 93:21; 96:16, 23; 97:13, 18; 99:2, 6, 19; 109:19; 111:4; 117:9; 121:7, 9, 12; 122:10, 14; 129:22; 130:7, 8, 17; 137:6, 9; 141:20, 22; 145:23; 146:10, 14; 151:22; 161:23; 165:1, 2, 7, 7; 168:1; 173:13, 14; 174:7, 16, 20, 24; 175:17; 176:7, 13, 16; 177:17; 178:13; 179:4, 8, 16, 18; 183:19; 184:18; 185:4; 188:5, 6, 19; 189:2; 191:19; 193:10, 11; 198:16; 201:23; 203:15, 21, 21; 206:5, 14, 16; 207:17; 213:10; 214:6, 22; 220:1, 2, 17; 227:19
capabilities 21:12; 22:19; 132:11, 21
capability 161:16; 169:23, 24; 170:2; 177:11; 179:1, 9
capable 176:4
capacity 59:13; 128:9; 129:21; 130:11; 131:18, 22; 132:1; 133:1, 24; 154:18; 155:1, 4; 162:15; 175:6; 205:10, 15, 20
capital 148:12
captured 193:16
car 21:24
card 140:24
care 10:8; 23:10; 137:2; 191:18
career 20:3
careful 9:21
CARLSON 213:23; 214:3, 11; 226:23
carried 148:3, 13
carrier 105:20; 120:23; 127:4; 171:16; 221:21
carriers 12:4; 15:19, 19; 40:1; 47:3, 18; 81:15, 18; 180:24
carry 196:1; 198:24
carrying 175:20; 198:22
case 9:14; 29:3; 31:11; 51:13, 21; 52:22; 57:3, 16; 59:16; 74:1; 77:22; 84:21; 119:12; 140:6; 148:5; 200:10, 14, 24; 208:9
cases 26:2; 51:15, 19; 62:4, 6; 183:3; 201:19
catalogue 90:20
catch 214:23
categories 151:16
cause 30:15, 18; 103:3; 218:9
caused 26:5, 5
CCRS 22:24; 23:8; 178:22; 181:7
Celtics 214:22
Center 170:23; 195:15, 17, 20; 196:6, 7, 10; 197:9, 11, 12, 18, 19, 20; 199:3, 4, 6, 7, 10, 12, 13, 14; 200:19; 202:4, 5, 9, 23, 24; 203:3, 12, 13, 14; 204:12, 22
centering 23:2
centers 200:16; 203:19; 204:4
central 8:15; 14:13; 18:24; 19:2; 24:1, 13; 30:10; 31:24; 32:16; 33:2; 56:11, 12; 57:18, 21; 65:7; 66:10; 67:5; 78:3; 102:9, 23; 103:4; 116:10; 134:2, 19; 136:13; 138:5, 24; 139:12; 140:13; 141:8, 17; 143:6; 144:12; 145:14; 146:22; 147:1; 154:15, 17; 155:1, 3, 13; 158:9; 159:10, 12, 16; 162:4; 164:10; 167:5; 169:19; 182:22; 186:7; 187:1, 11, 15; 194:13, 15, 19; 195:9, 11, 12; 209:20; 211:23
central-office 65:8; 132:14; 136:5; 137:14, 16, 20; 138:9, 17; 140:2
Centrex 21:14; 22:6, 15, 17; 23:1; 34:23; 78:12; 101:18; 178:2, 8; 179:2, 4, 5
Centrexes 34:24
cents 45:3, 6, 8, 9; 49:19, 23
CEO 86:6
certain 8:2; 12:18; 38:19, 24; 52:10; 53:17; 78:8; 87:5; 90:3; 113:3; 178:4
certainly 44:9; 52:24; 67:17; 72:11, 16; 75:3, 5, 9; 82:9; 101:15; 109:2; 132:22; 144:22; 145:19; 193:5; 201:7
cetera 15:21; 17:3; 118:9; 121:4
Chair 100:11, 11; 111:12
chairman 52:18, 19; 74:20; 98:24; 99:1, 15, 18; 100:10; 112:10
challenge 22:18; 216:15; 227:24
challenges 22:3
change 6:19; 21:12; 60:23; 61:1; 103:12; 136:17; 140:22; 160:8; 171:19; 172:23, 24; 173:4, 13, 14; 174:12; 177:10, 13, 22; 178:3, 10, 13; 186:12; 197:24; 198:3
changed 108:4, 5; 158:24
changes 21:15; 22:1, 6; 63:22; 103:16; 179:2; 182:2, 8; 183:21
changing 166:18, 18, 19; 168:11, 13; 187:8
characteristics 45:22; 144:21
characterization 113:8; 119:22
charge 44:8, 10; 54:23, 24; 55:1, 12, 19; 61:3, 5; 66:18, 21; 67:4; 76:4; 90:22, 23; 95:19, 19, 23; 104:7, 9; 105:20, 24; 106:4, 12, 14; 109:10, 15; 118:22; 119:14; 210:2; 223:14; 224:16
charged 75:13; 202:21
charges 46:18, 18, 18; 60:4, 17, 21; 90:8; 103:20; 197:17; 200:8, 9, 12; 218:18; 222:3; 226:3
chart 90:15, 18; 95:10
chassis 130:1, 10
cheap 23:14; 64:18, 22
cheaper 160:17; 190:15
cheapest 42:17, 21
cheat 220:15
checks 172:5
chief 85:19
children 216:9
chip 53:8
choice 200:8
choices 37:19
choose 15:1, 3; 16:20; 40:12; 141:15; 200:7
chooses 13:15; 14:5; 15:9; 103:10
chose 49:13; 80:3; 122:8; 168:23; 193:2; 194:10; 201:5
chosen 37:14, 16; 38:24; 39:20
churn 226:16
Circuit 9:16; 28:19, 19, 21; 107:22; 130:11; 133:15, 16, 16; 136:17; 144:21; 166:9; 183:7, 10
circuit-by-circuit 156:11
circuits 35:1; 56:17; 64:3, 16; 129:22; 130:13, 17; 131:3; 133:9; 157:15; 188:1
circumstance 92:2; 103:10; 169:3
circumstances 42:1; 70:4; 139:24
cite 101:16
cited 132:10
City 78:4; 102:10; 214:13; 216:2, 5
claimed 10:20
claiming 17:22
claims 9:9; 10:12; 11:7; 16:13, 16; 18:21; 180:17
clarify 83:20
class 10:11; 166:18; 171:12
classes 61:14; 62:7
clear 9:14; 59:19; 67:22; 68:20; 80:13; 86:13; 98:21; 120:7; 147:4; 174:4; 205:3
clearance 134:9, 13
clearer 167:1
clearly 47:14; 60:20; 68:15; 69:4, 5; 156:8; 200:11; 215:14
CLEC 8:13; 11:4; 12:15, 17; 13:11; 14:1, 12, 16; 15:9, 12, 16; 16:2; 17:22; 18:1, 4, 7, 13; 26:10; 30:22; 31:21, 23; 33:19, 22; 34:10; 35:20; 37:24; 41:13; 45:17, 24; 46:15; 50:13; 54:1, 6, 6; 56:14; 59:6; 65:13; 66:1, 2; 67:4; 72:23; 73:13; 74:3; 79:17; 80:3, 8, 21; 102:24; 103:7, 11, 11, 14; 104:14, 17; 115:14, 18, 24; 116:3, 6, 9, 20; 117:23; 118:1, 14; 131:17, 24; 132:21; 133:10, 15, 24; 134:17; 135:6, 10, 19, 22; 136:1, 2, 10, 16; 137:9; 140:20, 23; 141:3, 3, 4; 143:2; 146:20; 147:5, 11, 16; 148:17; 153:5, 13, 16, 22; 154:1, 6, 14; 155:11; 157:13; 158:22; 159:2; 160:10, 13, 16, 21; 161:11, 15, 18; 162:11; 163:7, 9, 16, 22; 165:1; 166:2, 5; 168:22, 23; 169:3; 179:11; 186:13, 14, 21, 24; 187:9, 23; 188:10, 23; 192:4, 23; 194:6, 23; 195:23; 196:3, 24; 197:13; 198:19, 21; 199:16, 22; 200:5, 6, 6, 7; 201:2, 5, 7, 11, 17; 202:15, 16, 22; 203:6, 12, 21; 204:2, 6, 10; 205:9; 206:14; 217:18; 219:13; 221:11, 20; 222:2; 227:17
CLEC's 13:12; 14:2, 15; 18:2; 58:10; 132:13; 144:14; 196:9; 197:6, 10; 198:8, 9, 16, 17; 203:10, 10; 204:2; 207:2; 218:8
CLEC-provided 154:13
CLEC-specific 130:3
CLEC-to-subscriber 133:13
CLECs 4:23; 7:24; 8:20; 10:13, 15, 20; 11:6, 12; 12:6, 20; 13:5; 14:20, 24; 15:3, 18; 20:22; 21:3; 22:12; 24:17, 21; 25:16, 21; 26:14, 17; 28:1; 35:3; 36:13; 37:17, 23; 38:13; 39:19; 40:9; 46:13; 52:21; 53:16; 59:1, 2; 73:11; 74:3; 77:19; 80:23; 81:6; 91:12, 18; 92:7; 102:10, 23; 103:1; 107:17; 115:9, 10; 117:22; 123:22; 135:17; 140:12; 160:7; 163:11, 17; 164:7; 169:10; 182:8, 10, 17; 187:21; 188:7, 12; 189:19; 192:8, 12; 200:14; 201:20; 202:3; 204:20; 215:5, 12; 216:14, 22, 24; 218:4, 7, 23; 219:5, 20; 225:8, 21; 226:17
client 7:4
clog 58:21
close 77:20; 81:23; 82:5; 95:24; 112:15; 228:21
closer 26:9, 15
closes 55:12
CO 65:12; 66:1; 154:21; 212:9
cocarrier 7:7
code 201:10; 203:7, 11
codes 166:19; 201:8; 202:3, 24; 204:3, 11, 13
collaborative 51:9; 67:15
collect 56:15; 222:10
collected 56:20; 194:13, 15
collection 74:3
collocate 8:14; 12:17; 15:6; 48:18; 49:7; 116:10; 136:19; 198:21; 212:22
collocated 102:10, 24; 103:2; 137:6, 7; 141:2; 157:23, 24; 160:12; 165:9, 10; 209:23
collocating 14:14; 56:16;

163:12
collocation 8:19, 22; 13:14, 15, 23; 14:3, 4, 24; 15:24; 18:13; 20:6, 24; 26:18; 27:22; 32:6, 14; 33:6, 18; 34:3, 10; 48:16, 23; 50:4, 8; 56:17; 58:8, 10; 63:20; 66:24; 67:1; 78:4; 81:23; 106:19, 20; 107:1, 4, 7, 17, 23; 108:6, 10, 15; 115:8; 116:19, 19; 117:24; 132:11, 13; 133:22; 135:16, 18; 137:22; 141:7, 8, 10; 147:1, 10, 19, 21; 148:18; 155:13; 156:2; 157:20; 163:7, 8, 18; 164:19, 24; 165:6, 14, 21; 182:23; 189:11, 16, 17; 190:9; 192:24; 194:9, 20; 195:16, 22; 196:8; 199:6, 12; 201:7, 14; 209:15, 19, 22; 210:14; 212:12, 22
collocation-cage 50:6
collocation-type 118:4
combination 9:7; 21:8; 26:24; 32:5; 33:18; 47:12; 48:2; 54:23, 24; 55:1, 4, 8; 57:24; 68:14, 22; 71:3, 4; 80:2, 21; 95:19; 105:23; 118:12, 22; 119:14; 120:4; 160:11; 192:9, 14; 193:12; 215:9, 21; 216:1, 1; 217:1; 222:21; 223:4, 7; 228:3
combinations 4:11; 6:1, 4; 8:3, 16; 9:18; 12:14; 31:21; 32:13; 34:9; 35:12; 38:19, 20; 47:9; 48:13; 50:18; 53:20; 54:8, 21; 60:16, 21, 24; 61:10, 12, 13; 69:1; 70:6; 71:12; 76:11, 16, 24; 77:8; 79:18; 89:16; 90:7; 95:22; 97:21, 22; 105:13; 106:11, 19; 113:3, 4; 123:1; 126:8; 150:23; 152:21, 23; 183:6, 10; 184:2, 23; 189:9; 190:2, 20; 191:12; 228:7
combine 7:24; 8:11, 20; 10:15; 11:13; 12:20; 14:11; 15:15; 18:10; 27:4, 5, 5; 28:2, 9; 33:19; 41:3; 56:1; 59:3; 80:8; 81:19; 92:8; 117:23; 118:2; 144:18, 22; 154:2, 6, 12; 188:1; 215:11; 216:21, 22; 219:4; 223:12; 227:16, 19, 22
combined 8:12; 10:18; 23:16; 39:18; 54:12; 69:22; 80:8; 117:15; 215:4, 7; 223:19
combines 27:3; 123:22; 166:22
combining 13:5, 19; 14:9; 21:17; 50:11; 116:13; 144:8, 19; 149:12; 153:5, 13, 18, 22; 154:1; 165:2, 5; 166:9; 224:16
Combo 5:21; 87:11; 92:16; 102:7; 121:24
coming 24:24; 59:7; 63:1; 84:19; 156:15; 197:19; 198:8, 9; 200:6; 205:11, 15, 24; 206:1; 213:22; 228:15
commence 91:17
commencement 102:12, 22, 24; 103:2
comment 13:3
commented 99:8
comments 11:16; 35:3; 39:13; 211:1; 213:11
commercially 62:21
Commission 12:1; 52:11, 17, 18; 72:24; 73:4, 21; 74:6, 12, 13; 77:20; 79:7; 81:4, 8, 15; 83:16; 85:8; 87:5; 91:10, 20, 23; 94:16, 21; 95:7, 12; 98:17; 99:1, 2, 7, 11, 15, 18; 100:15; 106:7, 13; 110:16, 20; 111:10, 13, 15; 112:5, 7, 11, 17; 113:6, 15; 114:5, 6
commission's 51:24; 98:22; 100:7
Commissioner 4:17; 74:22; 222:23; 223:2
commissioner's 74:17
commit 72:18; 82:22
commitment 72:4; 73:4, 19; 74:5, 10, 11; 83:1; 100:22; 101:5, 10; 105:11; 106:10; 108:12, 14; 111:12; 112:16, 18; 113:6, 14; 114:4; 120:2, 11, 24; 121:2, 3; 123:9, 12; 126:5, 11
commitments 89:22; 101:7; 110:15; 111:9, 13
commits 106:18
committed 11:24; 110:19
common 25:19; 134:7; 188:13; 190:9
Communications 214:12
compacted 156:3
companies 63:3; 120:2, 2; 124:20; 143:9; 144:16
company 6:2, 19; 7:23; 8:3, 10, 16, 18, 23; 9:6; 10:4; 11:19, 23; 12:8, 19; 24:10, 15; 36:12; 37:13; 38:1; 46:19; 48:1, 3; 51:11; 52:10; 63:5; 65:20; 67:16, 17; 69:13; 72:18; 83:6, 17; 86:7, 21, 22; 104:13; 125:22, 23; 136:22; 145:13; 193:6; 210:12, 21; 211:8; 214:12
company's 7:19, 21; 11:5, 11, 12; 37:11, 18; 38:18; 52:12; 60:19; 66:24; 69:8; 83:5; 87:19; 97:6; 125:1; 211:1, 4; 213:11
comparative 152:16
compared 31:2; 32:23; 150:3; 190:8
comparing 40:7
comparisons 208:19; 209:1, 8
compelled 8:1
compensate 216:24
compensation 200:10; 222:13
compete 155:11
competing 81:15, 18; 151:20, 23
competition 8:17; 10:6; 13:6; 14:22; 20:8; 53:14; 151:7, 10, 19; 152:6, 16; 217:6, 13; 218:13
competitive 151:13, 24; 152:21, 23
competitor 10:11; 75:23
competitors 151:11; 152:12
complete 29:9; 65:23; 87:17; 96:14; 166:3; 168:4; 185:4
completed 21:1; 63:15, 16; 158:2; 159:22
completely 20:20; 21:1; 166:6
complex 17:6, 17; 18:24; 71:9
complexities 17:10; 182:6
compliance 63:12
complicated 31:17
comply 39:2
components 117:10; 120:8; 210:10
comprehensive 7:22; 11:22; 38:11; 50:23; 71:21; 83:8; 84:23; 86:2; 92:19; 113:17, 18, 23; 118:7
compromise 48:17; 49:22
computer 186:22
computer-controlled 21:9
CON-X 7:4; 16:3; 21:7; 66:3; 129:3; 140:9; 157:18; 158:23; 159:5, 19, 19, 23; 160:2, 5, 6, 12, 19; 161:8; 162:2; 186:6, 7, 8, 9, 11, 18; 211:4, 6, 9, 15; 212:12, 20
CON-X's 213:1
concentration 123:2, 7, 10, 11; 124:1, 2, 5; 126:6, 7, 12, 24; 206:9, 10; 208:14
concept 26:11; 58:4; 170:10; 189:8
concern 110:3; 201:1
concerning 5:13; 9:4; 16:5
concerns 38:12; 108:19; 109:4, 6, 16; 110:8, 11; 126:18; 138:22; 215:1
concludes 19:5
conclusion 48:3; 69:4; 190:24; 191:11; 219:2
conclusions 96:24
condition 74:4; 91:7; 108:7
conditioned 50:5
conditioning 189:12, 15, 19; 190:13
conditions 32:9; 99:9; 111:14; 113:18
conference 6:7
configuration 54:2; 160:3; 177:1
configured 163:3
configuring 57:23
confirm 87:13, 21; 96:7; 99:2, 19; 100:12
confirmed 99:8
conflicts 219:17
Congress 9:21
connect 13:12; 14:2, 16; 15:6; 32:13; 35:8; 36:14; 41:11; 131:2; 152:10; 153:18; 186:23
connected 21:18; 56:10; 160:15; 170:5; 172:13, 17; 173:8; 174:3; 179:12
connecting 20:21; 35:6; 41:5; 144:11; 149:22; 170:4, 7; 173:6
connection 11:15; 47:19; 55:4; 57:7; 62:24; 66:9; 116:17; 118:7; 130:23; 207:19
connections 15:20; 18:16; 23:24; 24:11, 12, 16; 25:4, 17; 26:10; 28:14, 15, 17, 18, 20, 21; 29:1, 9, 12, 22, 24; 30:14, 18, 21, 23; 31:2, 4, 6, 14; 35:4, 7; 36:2; 131:12; 139:6, 7, 17, 17; 157:10, 15; 158:3, 4, 5, 5; 159:5, 21; 162:17; 164:11; 177:20; 183:18; 184:7, 10; 186:19; 188:24; 195:24
connects 149:20
consensual 68:1
consider 53:12; 140:17
consideration 39:1, 5, 8
considered 20:15; 58:9
consistent 28:6; 111:17; 221:9
consists 8:4; 9:8
consolidated 4:4; 51:16
constitute 80:3; 120:9
constructed 218:20
construction 18:14, 15
consumer 217:14; 219:7
consumers 216:13, 18; 217:3, 7, 10, 17; 218:1, 14, 22; 219:1
contained 188:2
containing 142:17
contains 7:22
contention 16:1; 22:21; 23:2
context 93:6, 7, 9, 10; 147:2; 216:12
contingent 11:1
continue 77:17; 80:12; 81:5; 95:1
contract 146:2
Contrary 9:9; 11:7; 15:8, 24
contrast 30:23
contribution 225:12
control 17:18; 18:4; 22:13; 65:9, 13
conventional 190:8
convert 46:8; 47:4; 54:3; 161:16; 169:8
coordinated 34:2, 8
coordination 214:15
copied 125:17
copper 130:24; 162:13, 14
copy 125:19; 126:15
corporate 85:22
Corporation 7:4
correction 65:3
corrections 115:3
correctly 63:18; 81:10; 95:24; 96:2; 102:21; 117:1; 124:1; 163:6; 187:5, 20
correspondence 125:9, 21
COs 56:15
cost 48:21, 23; 49:10; 50:2, 6; 64:10, 11; 67:1, 10, 11; 96:17; 123:4; 132:4, 6; 179:23; 180:19; 181:22; 185:22; 191:10; 226:4
cost-based 9:20; 55:12; 66:20; 104:6, 9; 217:2; 223:15; 224:17
cost-effective 12:21; 21:6
cost-procceding-wise 180:21
cost-recovery 104:2
costly 40:2, 3
costs 8:21; 50:13; 55:3, 7; 64:17; 95:21, 22; 103:12, 15, 21; 104:1, 2, 13, 18, 19; 105:1, 2; 126:10; 180:16, 16; 181:24; 189:10; 193:18; 211:9, 10, 12; 217:6, 7, 14; 218:16, 21, 23, 24; 222:6; 223:21, 21; 226:15, 16
coterminous 204:7
count 142:21

country 124:21; 125:2; 220:3
couple 20:7; 28:11; 37:8; 62:17; 101:19; 108:23; 122:22; 142:10, 12, 15; 143:9, 24; 144:4; 164:2; 170:18; 186:1, 5; 226:20
course 204:5
Court 9:16; 107:22
cover 103:21; 104:18
covered 193:19
covers 188:6, 8, 18
CPU 175:6
craft 83:22, 24; 146:3
crafted 83:21
crap 59:5, 12, 17
create 30:8; 40:7; 180:1; 218:21
created 25:23; 218:19; 223:21, 21
creates 39:22; 218:3, 12, 16
creating 10:10
creative 16:22
criteria 47:22; 215:23
cross 36:13; 159:20
cross-box 63:4; 129:11
cross-connect 16:2; 26:7; 30:2; 62:23; 130:15, 18; 163:23; 164:1; 190:4; 210:8
cross-connected 129:23
cross-connections 18:22; 138:4; 162:4; 165:8
cross-connects 19:1; 30:9, 11; 31:12; 36:19; 156:14, 18
CROSS-EXAMINATION 68:9; 122:20; 127:20; 144:2; 146:15; 190:17; 192:18; 226:21
crossover 46:2
crunching 208:15
culmination 12:8; 52:9
curious 83:16; 122:1; 205:7
current 19:24; 27:10; 77:18; 80:12; 86:24; 94:23; 117:8; 154:18; 189:11; 214:9
currently 22:20; 62:20; 63:2, 9; 76:3; 77:23; 78:19, 22; 80:6, 16; 87:6; 102:16; 123:13; 143:16; 144:5; 151:7; 152:6; 158:21; 216:2
custom 145:21
customary 145:19
customer 23:1; 33:16, 17, 24; 42:4, 4, 6, 6, 7, 8; 43:3, 16, 19, 22, 24; 44:4, 14, 18; 45:18, 21; 46:1, 3, 4, 5, 6, 13, 14, 16; 47:5; 48:20, 23; 54:5, 11, 13, 18; 56:4; 103:8, 9, 10, 14; 159:14; 160:11, 14; 166:2, 4; 167:2, 3, 6, 6, 11, 19, 22; 168:1, 6, 21; 176:13, 21, 23, 24; 177:1; 179:4; 196:21, 23; 197:14; 198:1; 199:3, 21; 200:6; 202:23; 203:12; 221:23; 226:16
customer's 44:24; 47:6; 56:10; 179:5; 195:3; 197:1
customers 14:13, 21; 19:1; 21:14; 22:6; 35:2, 14, 16, 18, 18, 22; 42:9, 10; 44:2, 13; 46:10, 11; 55:24; 56:2, 19, 24; 61:14; 62:7; 63:17; 96:20; 116:12; 158:20, 20, 22, 24; 159:4, 11; 178:2, 9; 188:2; 201:5, 9; 202:17; 216:20, 23; 218:8; 219:6
cut 33:16, 17; 34:5; 39:15
cutover 160:24
cutovers 34:3, 9, 13, 19, 21, 23, 23, 24; 35:1, 2, 4, 10, 11, 13, 20; 36:3; 152:11

D

D.C 129:13
DACS 16:9
daily 34:22
data 152:16, 17; 184:12; 208:12
data-switching 208:9
databases 121:3
date 6:20; 78:6; 117:18, 20, 21; 143:16
day 35:8; 36:4; 39:16; 45:22; 54:10; 59:6; 161:4; 228:16
days 99:17; 167:20
DC 20:9
dead 175:15
deal 51:18; 78:16; 81:4; 89:21; 109:15; 214:17; 222:13, 15
dealing 71:20; 84:22, 24; 85:2; 86:1; 92:18; 93:9
dealt 23:6; 93:6, 10; 98:19; 201:1
debated 84:10
December 5:23; 13:1; 91:23; 114:22; 116:22; 117:3, 6, 14, 16, 19; 118:10; 119:11; 162:22
decided 158:22
decides 69:21
decision 38:18; 48:1, 12; 53:6; 69:23; 113:2; 153:2; 221:11
decisionmakers 216:5
decisionmaking 47:15
decisions 10:8; 17:24; 37:19; 47:9; 216:6
declared 87:15; 88:15; 89:9
declining 152:22
dedicate 208:6
dedicated 8:5; 15:18; 115:18; 151:4, 12; 176:18; 205:9
deemed 85:8
defer 141:19
deficiencies 169:12
define 24:7; 85:15; 171:20
defined 80:20; 178:14; 179:7
defining 27:14, 17; 171:4
definition 123:18; 126:20; 150:14; 153:7; 173:18; 177:15; 208:23
definitively 150:20
degrade 11:8
degraded 19:3
degree 32:3; 48:9; 206:5
degrees 172:4
Delaware 20:9
delay 218:6, 8
deliver 33:12; 196:2
delivered 192:24; 193:3; 199:23
demonstrate 13:4; 36:18; 37:6; 81:14; 117:22
demonstrated 77:20; 81:7
demonstrates 91:9
demonstration 36:16; 81:22; 91:13; 127:23
Dennis 125:11, 18, 22
densities 162:7
density 41:20; 42:2, 16; 55:19; 95:13; 191:1, 13
Department 4:8, 9, 18; 7:16, 20; 10:6, 8; 12:14; 51:12; 67:14; 72:4; 75:8, 11, 17; 83:7; 215:10, 15, 17, 20; 216:12, 16; 219:4; 227:7, 16; 228:5, 5
Department's 5:10
depend 61:2; 194:22
dependent 157:13
depending 17:15; 43:15; 44:23, 24; 50:12; 63:23; 90:6, 8; 110:10; 202:14
deploy 212:23
deployed 63:11; 188:22
deploying 211:19, 23; 212:1
deployment 63:17; 211:17
depths 182:6.
deputy 99:1; 100:11
derivation 60:16; 108:24
derive 145:15
derived 60:8
derogatory 70:11
describe 21:8; 130:4; 137:6; 156:17; 170:24; 175:23
described 11:20; 21:11, 23; 26:21; 49:20; 120:3; 122:9; 131:11; 147:11; 150:12; 164:3; 165:14; 169:11; 178:19; 180:1, 24; 201:1
describes 153:9
describing 25:10; 40:24; 89:20; 90:2; 137:22; 160:20
description 122:1; 131:8; 149:11; 150:3, 20; 173:22
design 17:24; 33:3, 6; 63:21; 124:16; 133:8; 156:6
designated 196:18
designed 14:19; 34:14, 15; 55:16; 130:14, 23
designing 206:2
designs 32:19
desire 12:6; 47:22
desired 27:22; 67:14
detail 162:22
details 89:21, 22
determination 79:11; 216:17
determine 131:21; 206:14
determined 4:14; 185:21; 196:5
determines 46:15; 172:8
develop 10:21, 24; 21:22, 24; 164:6; 192:4
developed 11:3; 23:3; 26:12; 32:20; 34:1, 4, 12; 124:16; 160:22; 179:10; 180:11; 181:11; 182:18; 192:5; 193:6, 9; 210:12; 217:1
developing 20:5, 13; 23:17; 210:18
development 10:24; 21:1; 22:10; 23:7, 9; 179:14, 24; 180:16; 181:16; 182:16; 192:13; 217:13; 218:13
device 36:16; 63:1; 129:11; 130:14, 15, 19; 131:3, 7
devices 131:21; 132:2; 141:16
dial 33:21, 22, 24; 56:19; 175:10, 17, 24; 176:5, 13, 17; 177:3, 8, 9, 12, 15, 21; 182:17; 196:2, 14; 197:5; 198:20; 201:22
dial-tone 172:19
dialing 171:10
dictate 85:16
dictates 69:20; 172:13
difference 17:5; 29:14, 14; 32:4; 35:17; 39:17, 24; 137:21; 140:21; 201:18; 220:21, 23
differences 17:21; 29:4; 39:9; 61:16; 84:5; 110:2; 179:20; 221:1
different 9:12; 16:23; 17:1, 1; 20:19; 22:5, 9; 29:9, 13; 38:8; 39:14, 20; 41:20; 47:21; 48:10; 50:8, 9, 12, 21; 51:8, 22; 55:18, 19; 61:8; 62:7; 64:4; 68:1; 78:15; 84:8, 10, 11, 19; 85:10, 11, 11; 86:14; 93:5; 109:21, 24; 110:1, 4; 121:16; 138:2, 7; 163:22; 164:2, 20, 21; 171:11, 16; 177:16; 178:19; 179:9; 180:7, 24; 181:12; 185:12; 191:8; 194:8, 12, 19; 197:10; 200:18; 201:4; 203:5; 211:22; 213:2, 6, 8; 220:5; 221:8, 10, 14; 222:19; 225:3
differently 199:11; 200:19; 204:14
differs 51:4
difficult 17:18; 31:17
difficulties 22:20
digital 101:17, 20; 130:20; 140:3; 162:11, 12
digital-loop 127:4
digitally 206:12
direct 17:8; 43:20; 69:6; 77:7
direct-assistance 8:9
directed 66:3; 216:4
direction 65:24; 140:20; 147:13
directives 5:11
directly 17:3
director 7:1, 7
directory 15:20; 121:1
directs 141:4
disable 172:21, 23
disabling 173:11; 182:10
disagree 92:14; 93:3; 173:17; 215:10; 223:13
disconnect 131:2; 170:1; 173:1
disconnected 217:4, 22
disconnecting 173:5, 10
disconnections 131:13
discount 17:1; 39:17; 40:15, 18, 21, 21; 41:24; 44:5; 45:9, 16; 222:7; 225:6; 226:14, 24; 227:6
discounted 44:22; 45:2, 4
discounts 224:7
discriminatory 224:18
discuss 92:5
discussed 81:21; 107:19; 112:13; 125:12; 169:9; 202:3; 219:12
discussion 25:3; 114:17; 122:12; 145:7; 209:15;

215:22; 222:17
discussions 4:13; 39:12; 180:3; 211:4
disengage 174:8, 8, 11, 14, 23
disengagement 174:24
disruption 34:14, 18; 35:15
disruptions 33:15
dissimilar 216:14
distance 32:24
distinction 220:18
distinctions 9:21
distinguish 10:13; 146:10; 169:17
distributing 18:17; 20:21; 21:2; 23:18; 24:14; 26:9, 16; 58:14; 139:8, 16; 156:21, 22; 165:17, 19; 186:17; 187:2; 209:21
distribution 66:14; 156:11, 13; 157:17; 159:21; 165:9, 11; 182:24
divide 131:20; 155:18
division 4:18
document 73:7; 82:10; 92:10, 11; 111:24; 112:4; 125:15; 153:8
documentation 184:18; 208:24
dollar 96:16; 135:3; 147:12, 24; 148:9, 22
DON 6:10, 16; 7:6; 19:11; 127:1, 19; 145:10
Donald 5:14
done 23:13; 26:17; 30:6; 34:13, 16; 35:14; 38:9; 69:14; 85:12, 14; 99:11, 17; 137:22; 138:5; 139:9; 158:10; 166:11, 21; 167:17; 168:15, 20; 171:14; 177:7, 13; 182:6, 24; 183:7, 9, 11; 186:11; 197:16; 198:7, 7; 227:4, 8, 10, 13
door 29:2; 92:14; 93:1, 3
double-counting 76:22
doubt 80:18
doubting 80:15
down 30:4; 32:3; 43:17; 49:2; 161:5; 188:19; 207:18
downstream 103:17
downtown 43:9, 22; 44:14; 131:16; 154:17; 155:12
downtown-Boston 154:15; 155:3
draft 78:1
drawn 9:22
draws 197:5
drill 162:22
driver 198:13
drives 220:10
drop 193:4
drove 153:2
DS1 205:20, 24; 206:3; 225:2
DS3 205:21; 225:2
DTE 191:5
due 4:23; 217:4, 23
duration 54:15; 91:16; 102:12, 22
During 19:20; 33:24; 53:21; 54:6, 9; 146:5
dust 140:22; 190:12
dysfunctional 176:1

E

e-mail 125:17, 21
E911 8:7
earlier 22:24; 26:8; 56:23; 58:3; 71:12; 89:20; 95:17; 96:8, 22; 102:4; 111:21; 113:1; 123:15; 129:14; 143:8; 183:17; 208:18
early 35:21
earthquakes 212:8
easier 14:20; 160:16
easily 29:8
easy 131:24
economic 10:7; 47:6; 164:21
economical 18:12
EELS 122:6
effect 28:8, 14, 23; 32:11; 33:6; 102:16
effective 40:21; 80:6
effectively 41:12
efficiencies 207:18
efficiency 37:6
efficient 5:17
effort 11:14
Eighth 9:16; 107:22
either 11:13; 13:13; 14:3; 15:18; 17:12; 18:1; 20:23; 40:12; 42:24; 88:13; 89:19; 96:18; 100:12; 102:1; 116:9; 118:3; 134:15; 137:7; 141:18; 154:16; 158:2; 161:18; 166:10; 182:23; 192:13; 209:21; 211:23; 219:14
electric 66:23
electrical 144:21
electricity 66:5
electromechanical 131:7
electronic 20:20; 21:2; 125:9; 166:6; 169:4; 185:5
electronically 65:14; 168:3, 15, 20
electronics 175:6; 189:21; 190:5
element 27:7; 104:5, 9; 153:23, 23; 154:7, 8; 210:7
elements 7:2; 9:20, 23; 11:6; 13:6, 20; 14:10; 15:2, 4, 11, 14, 16; 27:1, 15, 17; 28:7, 10; 36:14; 40:12; 50:11; 77:20; 79:18; 80:2, 9, 21; 81:7, 17, 19; 91:12; 95:18; 118:12; 119:19; 120:4; 123:23; 144:9; 151:2; 153:5, 14; 160:8; 168:24; 193:16; 194:3; 205:5; 215:4, 6, 12; 216:23; 219:5; 221:2; 224:2; 226:1, 5; 227:17, 19
eliminate 12:16; 60:22
else 73:23; 101:13; 109:15; 114:9; 122:13; 137:3; 179:17; 206:20; 228:11
emergency 151:5
employ 32:19; 126:23; 127:4
employed 125:1
employees 23:24; 24:15; 136:14; 137:18, 19; 138:6, 11, 16, 23; 139:9, 21; 140:1, 7, 15, 19; 141:5; 145:14
employing 116:4
enable 8:13, 20; 22:12
enables 147:18
encompass 95:14
encompassed 104:1; 105:2; 126:21; 152:8
encounter 146:8
encourage 48:7
encouraged 62:5
End 10:2; 12:17; 25:16; 28:1, 10; 36:6; 39:16; 49:5, 8; 54:15; 56:15; 57:11; 106:17; 131:15, 16, 18, 19; 132:1; 133:24; 155:12; 158:7, 18; 161:10; 166:15; 176:8; 182:19; 195:1; 196:13, 16; 197:3, 7; 198:7; 200:20, 20; 201:3, 4, 6, 9, 10, 13; 206:24; 207:9; 221:24
end-to-end 12:7
end-use 167:2; 177:3
end-user 14:12; 152:9; 154:18; 201:19
endorse 111:16; 113:6, 15; 114:7
endorsed 73:14
endorsement 75:22
ends 133:11; 134:21; 198:2
Energy 75:12
engineering 17:24; 19:13, 17, 21, 22; 164:7
England 138:2
enhance 53:16; 154:6
enhanced 55:23; 98:9; 122:1, 2, 8, 10; 154:5; 160:1; 192:21; 193:7; 194:3, 6; 195:2; 196:6; 198:15; 199:5; 203:9, 24; 204:16, 18, 19
enhancement 161:17
enough 21:23, 23; 23:12, 12; 40:1; 69:10; 97:20; 175:5; 177:24; 178:1; 182:5; 183:24; 203:6; 206:15, 18
ensure 10:9; 179:3
enter 4:15; 67:14; 74:2; 225:8
entered 51:11
entering 133:9, 10, 11
entire 51:7; 95:14; 158:19
entirely 15:10; 93:5; 119:19; 149:6
entity 73:19
entry 39:21; 214:17; 218:12; 221:11; 224:19
environment 22:15; 23:21; 26:15; 137:14; 182:17; 189:1
environmental 189:12, 14, 18
environmentals 190:11
equal 30:20; 31:14
equally 32:8
equate 165:6
Equipment 11:14; 16:1, 4, 6, 8, 10; 20:23; 21:7, 8, 9; 23:24; 24:20; 25:18; 26:23; 27:6, 10, 11; 36:12, 18; 57:8; 58:11, 12; 62:20, 20; 64:17; 65:6, 8, 8, 12; 66:5, 19; 67:5, 11; 123:2, 7, 10, 13; 124:3, 11; 126:6, 8, 11, 24; 128:23; 129:7; 131:17; 132:4; 134:8, 18, 21, 23; 135:7, 10, 14, 19, 20; 136:3, 15, 18; 137:7, 16, 20; 138:4, 9, 11, 17, 19; 139:1, 4, 11, 14; 140:2, 6, 7, 9, 12, 22; 141:2; 143:6, 10; 144:5, 17; 145:14; 147:11, 14, 18, 23; 157:2, 18, 23, 24; 158:9; 159:6, 23; 160:2, 6, 12, 19; 161:8; 162:2; 163:3, 24; 164:1, 8; 183:23; 185:2; 186:7, 9, 10, 11, 18; 187:16; 188:5, 22; 189:20, 21; 190:4, 6; 206:6; 209:24; 211:6, 9, 13, 15, 23; 212:1, 12, 15, 23; 213:1; 217:20; 218:17
equipments 25:19
equipped 130:2
equivalent 123:17; 206:24; 207:3
escorted 23:18; 25:9
essence 174:7; 187:22, 23; 188:10; 205:10; 219:13
essentially 69:23; 172:21
establish 146:21; 147:5; 200:11
established 171:18; 212:15
establishing 147:17; 173:7
estimates 180:2
et 15:21; 17:3; 118:9; 121:4
Evans 4:17; 145:23; 186:4
even 45:2; 54:18; 75:22; 84:3, 4; 97:12; 98:18; 110:24; 139:8, 22; 166:8; 184:3; 185:11; 201:17; 204:24; 221:2, 12; 226:14
event 18:7; 228:5
events 99:23
eventually 217:8
everybody 164:17, 18
everyone 75:4, 7
everyone's 6:11
evidence 18:21
evidentiary 4:15
evolution 26:11; 160:17
exact 76:6; 78:1; 117:20
exactly 27:24; 28:3; 51:16; 60:9; 83:16; 84:17; 86:13; 92:23; 97:17; 109:1; 210:9
exaggerated 10:15
exaggerates 17:5
EXAMINATION 37:9; 186:3; 189:5; 219:9; 223:1; 224:9
examined 5:2
example 10:17; 15:5; 16:24; 17:7; 29:6, 6; 42:5; 43:8; 54:20; 56:2; 78:11, 12; 140:5; 159:7; 176:16; 197:13; 199:19; 202:8, 11; 221:15, 17
examples 17:20; 61:19; 191:16
exceed 8:24; 9:3
except 104:8; 106:20; 163:15
exceptions 102:2
excess 180:14
exchange 57:4, 17; 72:6; 81:4; 110:20; 111:9, 11; 112:19; 113:5, 14, 20; 124:20; 125:1; 196:18, 22; 202:9, 11, 12, 13, 19; 203:11
exchanges 203:19
exclude 75:6
excluded 101:4
exclusions 61:10; 101:15
Excuse 13:21; 24:2; 132:24
executive 85:19; 87:14
Exhaust 59:13; 204:17
Exhibit 5:22, 22; 6:4; 54:21; 71:11; 76:9, 11, 24; 89:18, 24; 92:16; 102:7; 121:24; 189:9
exist 22:22; 179:21;

226:10
existing 8:19; 21:5, 13; 27:1; 28:7; 33:16, 17; 54:1, 5; 103:8; 104:2; 140:5; 158:20; 166:2, 5; 167:1; 171:1; 204:21
exists 28:19, 22; 175:6; 220:13
exorbitant 49:1, 20
expand 54:10
expanding 137:24
expect 158:1, 11
expectation 86:18; 94:15
expectations 86:19; 89:13
expected 95:18
expects 87:17; 89:11
expense 148:12
expenses 18:18
expensive 14:20; 16:16; 39:18; 46:15; 49:12; 190:20; 191:12
experience 19:9, 16; 30:19; 184:16
experienced 184:5
experiencing 31:3, 7; 226:17
experiential 185:20
explain 24:3, 6; 37:21; 40:6; 49:3; 71:8
explained 11:15; 37:21
explicit 52:4
explicitly 106:18
explode 212:6
expressed 94:22; 209:10
extended 13:24; 26:22; 27:2, 23; 28:5; 54:4; 56:6; 98:9; 116:5; 154:11; 192:21; 196:6; 198:15; 203:24; 204:16, 18, 19
extended-link 13:11; 14:16; 28:1; 115:13; 116:15
extended-loop 55:23; 122:1, 2; 154:5; 193:7; 194:3, 7; 195:2; 198:2; 199:5; 203:9; 205:5; 224:11
extended-loop-service 197:23
extension 116:18
extensive 52:5
extent 55:2; 66:1; 95:21; 111:21; 114:13; 151:1; 191:17
extented-link 115:23
external 150:13
extra 19:1
extremely 85:21; 86:20
eye 49:19

F

face 151:7, 10; 218:10
faces 152:6
facilitate 153:22
facilitating 48:11
facilities 14:12; 15:3; 40:11; 103:9; 124:20; 146:23; 160:10; 165:10, 10; 167:4, 11; 183:14; 195:24; 208:7
facilities-based 14:22
facility 47:5; 116:19
facility-based 12:4
fact 18:23; 28:9; 30:16; 32:14; 59:5, 5; 78:20; 103:1; 107:3; 131:10, 11
factor 205:22
factors 61:8; 220:15; 221:14
factual 80:15
failure 30:12; 158:1, 11; 217:5, 24
Fair 69:10, 17; 70:19; 97:20; 119:21; 139:1
Falcone 20:16; 26:6; 29:16
fall 105:13
fallout 185:10, 12, 13, 15, 21
falls 126:11; 144:20
familiar 104:21; 120:5; 162:23; 182:5; 185:15, 20; 211:7; 212:14
far 76:13; 92:4; 95:12; 113:4; 129:4; 163:19; 164:7; 175:23; 221:6
fashion 59:3; 99:16
fast 23:14; 177:24
faster 58:22; 160:17
FCC 12:2; 27:17; 75:14; 111:17; 112:15; 120:1, 3, 11, 15
fears 59:3
feasibility 81:22; 123:16, 19
feasible 124:1, 2, 8, 12, 14, 18; 126:9, 20, 22; 223:4
features 10:17, 22; 17:2; 43:24; 46:6; 150:12; 171:6, 17; 172:18; 173:7
February 209:3; 226:11
fee 38:1; 55:9, 11, 12; 70:20
feel 53:4
fees 11:20; 97:3, 6, 9, 11, 17; 108:24
feet 49:9; 141:24; 161:22
felt 75:18
few 37:4, 8; 53:2; 60:2; 122:19; 183:8; 191:16; 192:20; 214:20, 24
Fiber 4:5
fiddle 179:4, 8
field 33:16; 169:20
figure 47:1
figures 184:20
filed 5:9; 7:20; 11:16; 71:11; 78:18, 22; 80:7; 104:20, 22; 107:22; 215:15
filing 12:2; 37:12; 89:13; 112:15; 119:24; 211:3
fill 133:4
final 33:14; 34:16; 36:8; 82:4; 192:1; 212:19
Finally 11:16; 18:7; 25:14; 28:11; 218:15
financial 125:11
financially 26:2
find 102:3; 133:22; 134:1; 192:12; 222:2
finding 225:21
finds 18:8
Fine 5:24; 62:12; 92:23; 97:13; 119:15; 150:22; 151:16
finish 88:2
fire 212:5
firewall 178:17, 18
First 4:19; 5:6; 7:11, 23; 19:11; 20:3, 20; 21:16; 22:4, 10; 23:20; 26:24; 28:13; 32:22; 38:23; 39:4; 54:9; 77:9, 15; 87:15, 23; 88:3; 89:6, 10; 90:2; 91:8; 105:9; 107:11; 112:3, 8; 118:16; 168:14; 178:1; 184:3; 192:21; 195:20; 201:20; 215:22; 217:17
fit 156:1, 7; 188:6
five 61:19; 142:3; 188:12
five-pound 156:8
flat 171:13
flat-rate 45:13
flat-rated 221:19
flavors 177:16, 18
flip 111:8
floor 32:23, 24
flow-through 166:6; 168:4, 15, 20; 169:4; 185:5
flying 153:20
focus 91:21; 109:9; 117:21
focusing 143:18
follow 164:7
followed 29:17
following 54:10; 146:19; 153:16
follows 62:18
foot 141:23; 142:17
footnote 38:6; 71:13; 74:4; 78:2, 3; 83:6, 18; 91:16, 21; 92:15; 93:11; 94:8, 12; 102:6, 20; 189:10
foreign 57:3
foreign-exchange 56:3, 9
foreign-exchanging 208:10
forever 53:18
form 14:18; 72:4; 73:4, 19; 84:24; 98:24; 99:6, 16; 100:10, 15; 121:16, 22
formal 214:2
forms 39:20
forth 13:9; 63:14; 89:24; 91:7; 102:5; 110:22; 111:14; 159:21; 162:17; 165:24; 184:13; 219:17
forum 117:2, 17; 118:5
forums 169:11
forward 50:11
Foster 4:17
found 35:14; 126:6; 225:10, 13, 19
founded 10:7
four 5:11; 41:20; 42:16; 61:19; 90:5, 17, 22; 91:13, 24; 95:3; 98:12; 109:23; 177:16
four-year 91:6
fourth 88:24; 105:17
FR 44:14, 17; 45:14, 21
frame 18:17, 19; 20:21; 21:2; 24:14, 20; 25:5; 26:10, 16; 29:19, 20, 24; 30:3; 58:14, 20; 59:8; 64:3; 134:5; 141:21, 23, 24; 155:22; 156:11, 13, 15, 16, 21, 22; 157:17; 159:22; 165:9, 11, 17, 19; 182:24; 186:17; 187:3, 22, 24; 188:11; 209:21
frames 23:18; 25:19; 58:22; 59:5, 12; 139:6, 8, 16; 142:4, 10, 17; 155:23; 156:1; 188:16, 19
framework 219:17
Francisco 29:11
free 16:21; 17:3; 18:10; 53:4; 68:13, 22; 210:5
freestanding 134:5
frequently 183:21
front 6:7; 43:7; 88:12; 112:4; 114:1; 134:12; 178:8, 16; 188:19, 23
frustrate 218:8, 12
full 62:6; 77:15; 91:8; 105:8; 205:10; 206:24; 214:8
full-period 208:11
full-time 138:15
fully 133:4; 216:24
fully-laid-out 142:16
function 16:11; 39:19; 55:5, 7; 166:13; 175:8; 177:6; 178:8; 198:14, 15; 203:24
functional 207:2
functionalities 150:17, 18; 172:9, 22; 173:12; 174:11
functionality 115:11, 15; 149:23; 159:4, 24, 24; 161:6, 9, 11; 170:19; 171:1, 3; 173:15; 174:7, 9, 9, 13, 14, 17; 176:12, 20; 178:3, 6; 180:1, 23; 182:11, 12; 193:17
functions 16:9; 23:10; 27:12; 104:16; 171:17, 23; 172:14, 18; 173:7; 175:10
fundamental 220:22, 24; 223:22
fundamentally 222:19
funky 212:4
further 36:22; 80:10; 83:5; 127:7; 143:20; 172:3; 187:19; 189:7; 211:16; 228:9
Furthermore 17:4; 18:20; 78:8
fuse 66:12, 16
future 79:10; 97:9; 161:6
FX 207:4, 12, 16

G

gain 13:11; 14:1
gap 55:13; 95:24
gave 19:11; 122:5; 128:19; 202:9, 11
geared 33:3
general 136:10; 167:12, 14; 214:6
generalization 139:20
generalize 139:10; 167:15
generally 31:13; 90:11; 91:1, 3; 107:2
generic 124:15
geographic 61:16
gets 95:5; 135:12; 136:3; 201:17; 210:6
give-and-take 72:13; 109:3
given 21:23; 41:18, 22; 45:17; 114:22; 118:18; 200:17; 205:11; 215:4
gives 17:20; 121:5; 187:14
giving 40:17; 64:8
glad 61:22; 193:20, 23; 219:19
Globe 88:20, 22
glue 11:20; 38:1; 55:11, 18; 60:4, 17, 21; 61:2, 5; 70:20; 76:4; 90:22, 23; 95:18; 97:3, 6, 9, 11, 17; 104:6, 9; 105:24; 106:12; 108:24; 109:10, 15; 118:21; 119:14; 218:18; 223:13; 224:16; 226:2
goes 13:17; 14:7; 49:2; 65:5; 92:4; 114:1; 129:4;

199:6
Goldberg 125:9, 16, 18, 23
Good 4:3; 5:8; 7:13; 19:10; 35:9; 36:20; 62:8; 106:9; 119:8; 122:5; 183:20; 218:1, 14
GR-303 26:23; 27:1, 4, 6, 10, 11; 123:10, 14; 124:6, 7, 11; 126:7
GR-303-compliant 126:10
grade 26:2; 101:8
graduate 19:18
grand 36:3
great 28:18; 30:9; 214:7
greater 32:24; 40:20, 21; 58:19; 211:17; 225:11
green 63:24
grossly 17:4
ground 175:13
group 178:14; 179:15; 227:9
groups 157:12; 164:12
guarantees 33:9
Guariglia 13:3; 17:8, 20
Guariglia's 15:8
guess 23:15; 33:8; 37:20; 60:11; 61:24; 86:19; 89:18; 155:17; 159:7; 173:17; 174:5; 208:23; 210:21; 224:13; 227:1
guided 37:18; 38:18
guidelines 17:14
guiding 38:21; 47:24; 48:3
gun 30:1, 2, 4
guys 56:13

H

half 31:9; 43:19; 44:1, 3; 184:4, 6
hand 9:24; 225:2
hand-holding 104:16
handle 130:17; 206:1, 16, 18
handled 178:23
hands 136:9; 139:21; 141:4
hands-on 65:9
hanging 176:6
happen 48:9; 84:3; 94:19; 95:6; 139:12; 161:5; 183:22
happened 52:5, 6
happens 42:12; 199:8
happy 88:1; 119:3
hard 42:19; 53:12; 159:9
hardware 139:3
Harrison 159:15
harshly 47:14
hat 214:22
hauled 201:13
head 90:14; 184:15
heading 118:13; 176:10
hear 96:1; 174:6
heard 40:16; 85:18; 227:2
hearing 4:6; 5:23; 6:8; 47:10; 62:11; 83:3; 93:15, 17; 97:5; 116:22; 117:3; 128:4
hearings 5:1; 20:16; 197:17
heart 223:17
height 128:14, 15
held 117:18
Helmer 100:11, 11
help 48:15; 56:13; 130:4; 170:11, 15
helpful 224:12, 14
helps 15:2
Herald 89:2, 4
Here's 179:15, 17
high 25:12
high-cap 47:5
high-capacity 101:18, 20
high-rise 29:2; 32:21
high-tech 35:6; 36:3
high-volume 46:4
higher 49:2
highest 87:14
highlighted 126:3
highly 164:11
hire 137:9
hired 24:10
hit 25:1
Hmm 154:20, 22, 23, 23, 24
home 167:7
honestly 60:9; 71:5
hook 26:1; 30:22; 33:11; 157:8, 8; 224:14
hooked 154:13, 14
hooking 130:24
hooks 181:15
hope 211:2
hopefully 146:8
horizon 53:7
host 218:16
hours 35:20
hubs 121:2
human 65:18; 142:13, 15; 172:7
hundreds 155:7
hunk 27:6; 156:4
hurdle 22:11
hypothesize 66:22; 91:22
hypothetical 92:1; 133:23; 135:21; 159:8; 166:24; 167:16; 199:2; 203:5
hypothetically 104:8; 155:16; 195:15

I

idea 119:8; 142:22; 147:22; 148:1; 208:6; 219:12
identical 84:1; 163:15, 20; 167:21, 22; 168:22
identification 6:5; 32:2, 7; 77:1
identified 78:21; 105:1; 117:11
identify 99:6; 117:9
idle 183:24
ILEC 133:9, 16; 160:21
ILEC-to-subscriber 133:12
illegal 69:15, 17
implementation 7:8
implementing 20:5; 217:6
implicit 107:5
implies 17:8; 76:12
imply 47:20
implying 17:6; 75:1
importance 200:15
important 85:21; 86:7, 20; 183:5; 215:24; 219:19; 220:18
impose 46:19; 98:2; 109:14
imposed 135:15
impossible 25:22
impression 207:15
improperly 158:2, 3
improved 161:7, 10, 12
In-band 121:18
in-service 144:10
inability 204:17
inaccurately 158:3
inches 128:13, 15; 134:12; 155:23
include 8:21; 75:8; 101:21, 22; 120:23; 121:1, 3; 123:10; 126:7, 21; 150:21; 153:8, 10
included 109:15; 117:12; 120:18, 21
includes 43:24; 121:5; 150:17; 151:2; 153:9
including 71:3; 79:19; 118:8; 123:23; 149:22
incoming 206:16, 19
inconsistent 10:3, 5; 27:16
incorrect 17:13; 100:14
incorrectly 105:11
increase 159:3
incumbent 221:21
incumbent's 10:1
incur 103:13; 104:14; 218:23
incurred 55:2; 104:3; 180:17; 222:6
incurs 95:22
Indeed 9:16
independent 63:3; 143:9; 162:18; 166:22
indicate 112:11; 208:24
indicated 210:22
individual 12:15, 20; 26:18; 92:7; 200:15; 227:19
individuals 25:17
inducement 70:9
inducements 70:4, 15, 17, 24
industry 19:17; 117:2, 14, 15, 17; 118:5, 14; 151:18; 211:16
Industry-standard 134:6
infer 96:16, 24; 97:18, 19
inferior 18:22
inform 100:14
informally 4:21
Information 4:23; 153:1; 175:21; 191:10; 193:24
infrastructure 12:5
inherent 9:17
initially 46:23; 104:14; 140:15
innovation 16:17
input 206:14, 16, 19; 208:11
inputs 49:3; 160:21, 21, 22; 172:7; 186:23
inquiry 92:5
ins 227:24
inserted 26:3; 217:20
inside 30:2; 31:24
install 23:24; 136:5; 137:8, 10, 20; 138:11, 17; 139:5; 140:4, 7; 157:22; 158:8; 159:20; 162:16; 165:3
installation 67:3, 5; 129:4; 132:6; 138:3, 19; 139:12; 140:11, 13; 156:9; 211:6
installations 53:21
installed 63:7, 9; 67:10; 129:1, 2, 7, 11; 135:13; 136:8; 143:10, 15; 157:24
installing 141:14; 163:23
installs 137:4
instance 8:3; 171:12
instances 106:20
Instead 40:17
instructions 166:12; 171:4, 11, 19; 172:6
intact 221:6
intelligent 166:19
intended 132:15; 169:17
intends 87:16, 24; 88:3
intent 75:6; 214:21
intention 88:15; 134:23
interconnection 9:1; 17:23; 20:6; 93:8; 200:9
interconnections 197:16
interested 62:9; 71:16
interesting 62:3; 64:15
interests 12:4, 6; 216:20
interexchange 8:6; 15:19; 120:23; 171:16
interface 23:9
interfaces 100:24; 180:12
interLATA 87:18
internal 81:22; 184:13
Internet 221:24; 222:1
interoffice 8:6, 12; 14:11; 15:17; 57:6, 11; 207:10
interpretation 108:2
interpretations 92:11
interpreted 72:3
interrelated 71:22; 83:9
interrupt 78:13
interstate 220:6, 9, 11, 16, 17
into 33:1; 39:1; 47:15; 48:7; 51:11; 63:1; 67:14; 68:16; 74:2; 119:20; 139:15; 141:20; 142:7; 149:7; 156:1; 167:19; 177:17; 178:24; 179:13; 181:10, 15; 190:24; 196:7; 198:9; 201:6; 214:17, 19; 217:20; 226:12
intrastate 220:6, 12
introduce 226:2
introduced 19:12
invest 222:9
invested 12:5
investigation 51:24
involve 22:20; 24:15; 107:7
involved 23:21; 61:3; 96:18; 139:22; 153:24; 207:17; 210:10; 214:16
involves 110:14
irrelevant 201:14
irrespective 204:1
ISDN 78:10; 90:4, 23; 91:17; 96:19; 100:23; 101:3, 4, 8, 11; 130:17; 131:3; 162:20; 190:1
ISDN-capable 225:1
issue 4:6, 11, 19; 23:5; 31:15; 39:9; 48:5, 10; 59:15; 67:15, 22, 23; 69:9; 70:8; 76:19; 84:4; 87:20; 93:6; 112:13; 199:20; 219:12; 222:14; 223:17, 23; 224:18
issued 4:8
issues 11:23; 12:9; 28:12; 51:19; 52:7; 69:6; 71:19; 72:12; 75:2; 81:20; 82:23; 83:22; 84:10, 22; 85:1, 3; 86:2; 92:17; 93:13; 110:8; 113:19; 214:16;

215:1; 223:12, 16
item 32:10; 33:14; 148:4
items 28:12; 212:7; 218:20
Ivan 88:19
IXC 220:13, 15
IXC's 220:8
IXCs 222:11

J

Jack 125:9, 16, 18, 22
JAMES 213:23; 214:11
January 209:3
Jennifer 125:16, 23
Jersey 20:10; 29:18
Joan 4:17
job 35:6, 12; 158:8; 214:9
jobs 19:21, 21
joint 226:7, 7
Jones 37:8; 53:3; 64:21; 65:3; 68:6, 8, 10; 69:5; 70:14, 16; 76:7, 18; 84:1, 18; 86:22; 88:7; 89:8; 93:19; 96:11; 100:1, 2; 114:11; 119:2, 7; 122:13; 127:16, 17, 21; 132:24; 143:17, 20; 146:16; 150:15; 170:13; 174:5; 175:15
Jones's 37:6; 83:12; 93:16; 175:19
judgment 61:4; 62:1
jump 53:4; 148:15
jump-starting 53:13
jumpers 25:18; 29:20
June 5:3, 3
jurisdiction 87:16, 23; 88:3; 89:10; 125:6
jurisdictions 38:9; 180:14
Justice 51:12

K

K 64:17
kahunas 155:9
Kansas 214:13; 216:2
keep 48:20; 170:13
keeping 214:21
Kennedy 5:15; 6:10, 15, 15; 7:3, 3; 11:15; 16:4; 21:7; 36:10, 10; 62:16, 22; 63:8, 21; 64:7, 11, 16; 65:16, 21, 22; 66:6, 11; 67:10, 11; 127:12, 22, 24; 128:5, 7, 10, 13, 17, 21, 23; 129:3, 9, 13, 17, 20; 130:9, 12, 14, 20, 22; 131:4, 9, 14, 23; 132:3, 5, 7; 133:1, 7, 18; 134:3, 6, 11, 14; 141:18, 19, 22; 142:2, 5, 9; 143:8, 13, 16, 18, 21, 23; 144:1, 4, 10, 20; 145:4; 160:20; 211:21; 212:16
Kennedy's 136:22
kept 217:7
Kern 125:11, 18, 22
key 135:7
kind 26:22; 30:1; 46:5; 48:7; 49:7; 55:10; 67:8; 68:1; 72:10, 17; 134:4; 164:20; 182:2; 214:18; 223:22; 227:9
kinds 86:15; 90:3, 24, 24; 110:2; 130:13; 205:12
knew 46:3
knowing 146:2
knowingly 69:18
knowledge 52:24; 69:19; 71:7; 73:13, 16, 18, 22; 74:10, 21; 106:2, 2; 111:21; 129:6; 151:22; 198:6; 224:4
known 120:4
Krone 162:5; 164:9

L

L 6:9, 21; 7:14; 127:18; 145:9
label 130:7
labeling 169:21
labor 25:12; 58:5
lack 203:3
laid 221:5, 10
language 81:9
large 18:24; 28:17; 63:24; 78:11; 179:14; 225:7
larger 128:3; 163:18; 191:16
last 20:4, 7; 77:2, 16; 96:14; 170:22; 180:6
LATA 13:15, 23; 14:4, 14; 115:8; 193:1, 4; 194:8, 17, 20; 195:15, 17; 196:7, 10; 197:9; 198:9; 204:2, 12
late 35:22
later 122:15; 127:8; 167:20
Laughter 59:20; 65:4; 70:18; 82:2; 100:4; 122:7; 156:5; 176:11
law 68:23
lawyer 68:16; 215:12
lawyer's 52:14
lay 136:9; 142:9, 14
layman 52:15
lead 18:22; 25:11; 218:6
leading 190:14
league 152:14
learn 150:16
least 41:15; 83:14; 97:21; 138:20, 21; 206:15, 18; 217:11
leave 77:21; 122:18; 127:12; 133:4; 177:3, 11, 20; 183:24
leaves 167:10
led 191:11
left 37:13
left-in 177:3, 12, 15
legal 4:18; 38:24; 67:20; 68:12; 69:4, 6, 19, 20; 70:15, 16, 23; 81:18; 82:10; 108:1; 215:13; 227:24
legally 68:13
legitimate 92:4, 21; 93:18; 223:21
length 32:11, 17, 21; 33:1, 4; 35:19; 61:3
lengths 33:5
lengthy 63:12
less 14:20; 16:15; 29:4; 39:18; 40:2, 3; 46:15; 105:13; 106:11; 152:23; 189:11; 190:20; 191:12
letter 98:24; 100:10
level 110:3; 223:4
levels 87:14; 180:10; 210:13
LEVY 4:3; 5:9, 24; 6:11, 17; 7:9, 11; 12:22; 13:21; 14:6; 19:6; 24:2, 18, 23; 25:2, 7; 36:7, 8, 20; 37:1, 10; 50:17; 53:2; 59:21, 24; 64:19; 65:2; 68:6; 69:4, 10; 70:10, 14; 74:14; 76:7, 15, 21; 82:23; 83:4; 84:18; 85:17, 24; 86:19; 87:10; 89:5, 15; 92:4, 13; 93:2, 15; 94:3, 4; 95:17; 97:22; 99:22; 100:17; 112:24; 114:11, 15, 18; 119:3, 15; 122:16; 127:9, 12, 15; 132:24; 133:17, 20; 136:21; 143:22; 145:1, 3, 6, 8, 11; 146:9; 148:16, 23; 150:2, 11, 22; 170:9; 174:4, 16, 22; 175:5, 12, 16; 176:2, 7; 184:22; 185:23; 186:1; 189:6; 190:16, 22; 191:6, 9, 15, 22; 192:15; 193:10; 194:1; 197:22; 199:20; 200:2; 205:2, 14, 18, 23; 206:20; 207:4, 11, 14; 208:3, 17; 209:11; 210:16; 213:16, 19, 20, 21; 214:7; 219:10; 222:23; 224:10; 226:18, 19; 228:10, 11, 14
Levy's 71:13
life-cycle 211:9, 10
light 109:19
likely 45:18; 220:5
limitation 69:20; 95:2; 102:5, 15; 129:22
limitations 53:11; 61:15, 16; 90:1, 2, 5
limited 16:17; 21:14; 22:6, 16, 20; 61:13; 132:19; 178:12
limiting 28:8; 151:15; 224:24
Lindsider 51:20, 20, 21
line 33:8; 44:16, 16; 49:15, 19; 57:10, 10; 123:6; 149:16, 17, 21; 157:4, 4, 8, 9, 11; 166:12, 15, 17, 20; 171:5, 6, 18, 20; 172:10, 12, 15, 22; 173:1; 178:11, 11; 179:12, 19; 207:5, 12, 16; 208:5, 5
line-class 166:19
lines 19:1; 22:13, 17; 115:19; 154:18; 155:17; 157:6; 159:10; 161:24; 162:9, 11, 12; 169:8; 178:14; 179:5, 8, 16; 181:1; 183:13; 186:8
lineup 135:13; 136:5, 15
link 8:11; 9:8; 12:18; 14:1; 15:13; 16:2; 18:10; 26:22; 27:2, 23; 28:5; 41:5, 9, 11, 16; 42:13; 43:6, 10; 54:4; 56:7, 10; 101:24; 116:5, 14, 18; 117:24; 144:13; 154:11; 193:13; 205:18; 223:23
links 8:14; 13:12, 16; 14:2, 5; 32:16; 101:22; 102:12; 118:3, 3; 121:15; 205:11, 14, 21, 24; 206:3
list 151:20; 152:3
listed 101:15; 112:12
listen 30:8
listened 37:12
listings 17:3
little 13:14; 14:4; 24:7; 30:1; 43:5, 21; 45:24; 51:2; 59:11; 62:19; 83:4; 89:20; 110:13; 159:8; 160:4; 163:21; 166:24; 225:4, 5
live 96:15; 216:2; 228:1
LLP 214:12
local 9:9; 20:8; 29:7, 8; 44:18; 57:18; 58:1; 110:1; 115:15; 116:4; 120:19, 22; 200:16; 202:4, 14; 203:2; 214:17; 217:6; 221:19, 20; 222:1, 3; 224:2, 5
local-exchange 54:2; 78:5; 102:11; 217:13; 218:13; 221:21
local-service 115:21
local-switching 15:13
locate 59:9; 133:23; 201:12
located 132:13; 134:18; 196:2, 8, 15; 197:4, 10; 199:3, 8; 201:18; 204:4
location 134:19; 196:3
locations 61:15; 193:5; 194:8
lock 188:23
locked 188:16, 20
locking 188:6, 8
logical 21:11; 169:13, 16
long 12:9; 29:22; 44:2; 115:1, 1, 4; 136:4; 179:23; 183:24; 228:16
long-distance 29:11; 219:23; 226:12
longer 32:15; 99:18
longer-term 23:4
look 20:14; 30:10, 21; 46:1, 9; 61:8, 9, 9, 24; 71:14; 95:10; 98:4; 105:7; 110:12; 112:3; 125:14; 183:6; 193:21; 209:7; 217:15; 220:5
looked 37:22; 55:20; 58:17; 107:12; 225:17
looking 40:10; 72:23; 83:21; 86:14; 89:24; 90:15; 96:17; 108:18; 110:17, 22; 111:1; 113:8; 117:11; 162:3
loop 15:3, 6; 21:17; 27:3, 4; 28:2, 24; 29:1; 30:22; 31:1, 4, 5, 22; 32:1, 11, 15, 19, 22, 23; 33:12, 17, 18; 40:24; 56:1; 57:7, 11, 17, 24; 58:1; 71:4; 98:9; 101:24; 123:1, 23; 126:8; 144:18, 19; 153:8, 10, 13, 19, 22; 154:2, 3, 7, 8, 12; 160:15, 21; 170:1, 4, 5, 8; 172:16; 173:5, 6, 8, 10, 12, 15; 174:1, 2, 9, 15, 18, 19; 175:1, 2, 7, 8, 9, 10, 14, 15, 20; 176:1, 4, 12, 17, 21; 182:11, 13; 195:3, 4, 5, 8; 196:1, 6; 198:7, 14, 15, 16, 20, 24; 201:19; 203:24; 204:16, 18, 19; 207:1; 217:19; 223:18; 224:14
loop-and-switch 223:7
loop-service 192:22
loop/switch 47:11; 48:1
loops 13:19; 14:9, 11; 15:7; 20:21; 24:11; 30:20; 31:2, 8, 13; 33:3, 10; 34:3, 5, 7; 35:11; 101:22; 115:22; 116:5; 152:9; 153:5; 154:1; 156:21; 165:16; 186:17, 19; 189:23; 192:23, 24; 194:7, 14, 23; 201:13; 223:23; 224:20; 225:1
lose 25:14; 26:4; 159:9
lot 21:3; 30:16; 43:22; 46:6, 23; 164:10; 221:13, 24
lots 35:4, 7, 8; 39:12; 40:16; 61:12; 176:16; 180:24
low 158:8
lower 8:20; 9:13; 49:2
lower-priced 219:16
Lucent 16:7, 9; 138:10, 10, 18; 140:1; 178:23; 181:14
lump 207:9
lunch 114:12; 127:14